



BrM Horizon

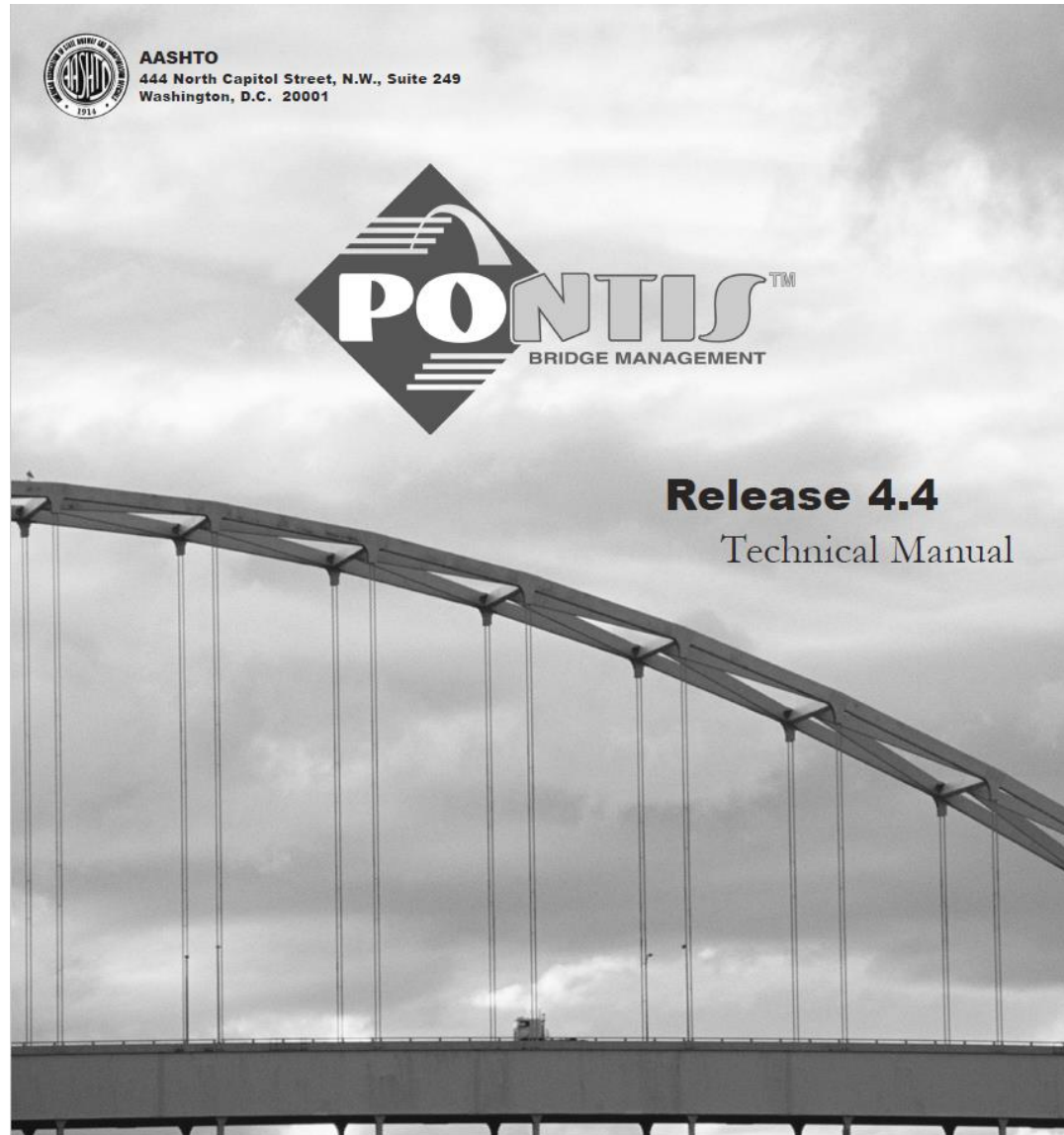
Where do we go from here?

September 12-13, 2017

Alexandria, Virginia

Tech Manual:

- Tech Manual
- Clearance Tab
- QC/QA Process
- Import / Export Options
- Track Historical
- Utility and HI
- Dashboards
- Project Costings
- Multimedia
- Scheduled Tasks
- Tunnel Work Candidates
- 3D Inspection
- Tooltips
- Other Items



Database System

- Database Organization
- Security
- Database Integrity
- Business Rules
- Customization and Configuration

Application System

- Software Environment
- Application Configuration
- Application Customization
- Import Export Options

Modeling System

- Modeling Framework
- Inspection Based Calculations
- Preservation Models
- Improvement Models
- Program Simulation
- Transition Probabilities Model Updating Procedure
- Cost Model Updating Procedure
- Practical Considerations in Using the Pontis Modeling System

Appendix A: PDI Documentation

Appendix B: Custom PDI Export

Initially supported by: AK, CO, CT, FL, ID, IA, KS, KY, LA, MA, MI, ND, NH, NM, NY, PA, RI, SD, TN, UT, VA, VT, WA, WI (23)

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Bridge: 1C 700 Facility Carried: (007): RP.J215NB TO I80WB

Measure1	Measure2	Type	Lane No	Direction
1: 21.46	1: 21.81	1: Edge of Pavem	1:	1: N
2: 21.46	2: 21.81	2: Thru	2: 1	2: -
3: 21.44	3: 22.07	3: Inside Edge of	3:	3: N
4: 21.44	4: 22.07	4: Edge of Pavem	4:	4: N
5:	5:	5: N/A	5:	5: N
6: 16.67	6: 17.81	6: Edge of Pavem	6:	6: N
7: 16.96	7: 18.16	7: Thru	7: 3	7: -
8:	8:	8: Thru	8: 2	8: -
9:	9:	9: Thru	9: 1	9: -
10: 18.13	10: 19.40	10: Inside Edge of	10:	10: N
11: 18.42	11: 19.80	11: Edge of Pavem	11:	11: N
12: 19.15	12: 20.42	12: Edge of Pavem	12:	12: N
13: 19.53	13: 20.58	13: Inside Edge of	13:	13: N
14:	14:	14: Thru	14: 1	14: +
15:	15:	15: Thru	15: 2	15: +
16: 20.42	16: 21.58	16: Thru	16: 3	16: +
17:	17: 21.66	17: Edge of Pavem	17:	17: N
18:	18:	18: N/A	18:	18: N
19:	19:	19: N/A	19:	19: N
20:	20:	20: N/A	20:	20: N
21:	21:	21: N/A	21:	21: N
22:	22:	22: N/A	22:	22: N
23:	23:	23: N/A	23:	23: N
24:	24:	24: N/A	24:	24: N
25:	25:	25: N/A	25:	25: N
26:	26:	26: N/A	26:	26: N
27:	27:	27: N/A	27:	27: N
28:	28:	28: N/A	28:	28: N
29:	29:	29: N/A	29:	29: N
30:	30:	30: N/A	30:	30: N

UDOT Data

Overhead Measures

Negative: Direction: N/A, Lane of Min: 0

Positive: Direction: NBL, Lane of Min: 1

Negative: Max ft: 0, in: 0; Min ft: 0, in: 0

Positive: Max ft: 99, in: 99; Min ft: 99, in: 99

Under Measures

Negative: Direction: SBL, Lane of Min: 3

Positive: Direction: NBL, Lane of Min: 1

Negative: Max ft: 18, in: 2; Min ft: 16, in: 11

Positive: Max ft: 20, in: 5; Min ft: 19, in: 6

Clearance Signs

Negative: Placed: No, Correct: N/A, Legible: N/A, Standard: N/A, Apprch Rqrd: N/A, Legend: None

Positive: Placed: No, Correct: N/A, Legible: N/A, Standard: N/A, Apprch Rqrd: N/A, Legend: None

Other Clearance Data

Notes:

Pave Type Under: Asphalt

	21.46	21.81	
	21.46	21.81	
	21.44	22.07	← Lane 1
	21.44	22.07	
	16.67	17.81	
	16.96	18.16	← Lane 3
	16.96	18.16	
	18.13	19.40	← Lane 2
	18.42	19.80	← Lane 1
	19.15	20.42	
	19.53	20.58	
			+ Lane 1 →
			+ Lane 2 →
			+ Lane 3 →
	20.42	21.58	
		21.66	

CLEARANCES				NOTES	
OVER STRUCTURE		UNDER STRUCTURE		Pavement Type Under: Asphalt	
Max: Not Applicable	Min: Not Applicable	Max: 10' 2"	Min: 10' 11"	NBI Vertical Clearance for Route Over: 19.33 Feet	
CLEARANCE SIGNS				NBI Vertical Clearance for Route Under: 19.33 Feet	
Signs Placed: No	Signs Correct: Not Applicable	Signs Legible: Not Applicable	Signs Standard: Not Applicable	Existing Legend: None	

Initially supported by: AK, CO, CT, ID, KY, LA, MA, MI, NH, NM, NY, ND, OK, PA, RI, SD, TN, UT, VA (19)

QC / QA Process:

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Bridge: Facility Carried (007): 25TH AVENUE Inspection: Type: REGULAR NBI Metric English

QC > Review ?

Show Changed Only
 Show Unapproved Only
 Show Unapproved Only
 Show Unapproved Only

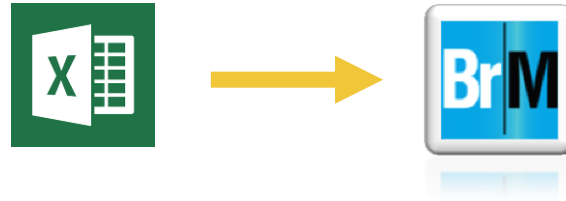
Field	Previous	Current	Origination	QC	QA
By:	Dale Debenham	Dan Adams	Dan Adams	Zac Boyle	
Date Last Returned:	4/16/2014	4/21/2016	-	5/10/2016	
Date last Submitted:	4/16/2014	4/21/2016	4/21/2016	-	
Bridge ID	1C 700	1C 700	✓ X	✓ X	
Structure Name	I-80NB Ramp Over I-215 WB	I-80NB Ramp Over I-215 WB	✓ X	✓ X	
▼ Structure Unit 1					
▼ 12 - Concrete Re Deck (Env 4)					
CS1	10,816 (78%)	10,215 (75%)	✓ X	✓ X	
CS2	10,816 (78%)	10,215 (75%)	✓ X	✓ X	
CS3	10,816 (78%)	10,215 (75%)	✓ X	✓ X	
CS4	10,816 (78%)	10,215 (75%)	✓ X	✓ X	
Notes			✓ X	✓ X	
▼ 510 - Wearing Surface (Env 4)					
CS1	10,816 (78%)	10,215 (75%)	✓ X	✓ X	

Initially supported by: AL, AK, CO, CT, FL, ID, IA, KS, KY, LA, NH, NY, ND, OK, PA, RI, SD, TN, UT (19)

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Expanded Import / Export Options:

Improved Import:



Export Options:

A screenshot of the 'Gateway > Export' interface. At the top right is the Excel icon. Below it, the 'Export what?' dropdown menu is set to 'Extensible Markup Language File (XML)'. A yellow arrow points from the Excel icon to this dropdown. Below that, the 'Include:' dropdown menu is set to '<99> Just Table BRIDGE'. At the bottom, there is a section titled 'Export which bridges?' with two radio button options: 'Selected Bridges' (unselected) and 'All Bridges in the Database' (selected).

Initially supported by: AK, CO, CT, KS, LA, MA, NY, OK, PA, RI, SD, TN, VA, WI (14)

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Track Historical Changes:

A log tracking user, time, table, field and value for all values changed on:

- Bridge
- Inspevnt
- Roadway
- StrUnit
- Pon_Elem_Insp
- Pon_WorkCand
- Pon_Tunnel_Insp
- Pon_Tunnel_Elem

Initially supported by: AL, CO, CT, FL, IA, KY, MI, NH, NM, ND, PA, RI, SD, TN, VT (15)

Better UI for HI and Utility:

- Tech Manual
- Clearance Tab
- QC/QA Process
- Import / Export Options
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Analysis > Utility Value ?

Utility Value: 91.02

Risk Value Base Risk Value: 62.33 Scaled Value: 62.33 x Weight: 15.00 = Adjusted Risk Value: 934.95

Risk Item	Base Value	Scaled Value	Weight	Adjusted Value
Channel and Channel Protection (NBI 61)			10.00	
Fracture Critical (NBI 92a)	0.00	0	20.00	0.00
Posting (NBI 70)	5.00	100	20.00	2,000.00
Scour Critical (NBI 113)			30.00	
Scour Risk Assessment			50.00	
Underclearances (NBI 69)	8.00	87	20.00	1,740.00
Waterway Adequacy (NBI 71)			10.00	

Condition Value

Condition Item	Base Value	Scaled Value	Weight
Element ratings	100.00	100	90.00
NBI ratings	100.00	100	10.00

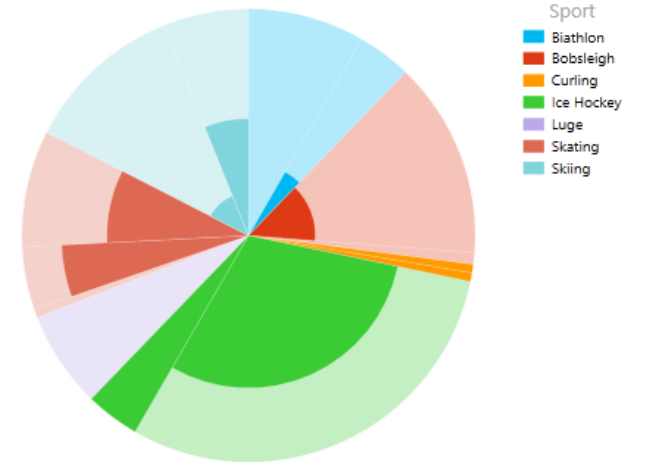
LifeCycle Value

No records to display.

Mobility Value

Mobility Item	Base Value	Scaled Value	Weight
Approach Roadway Alignment (NBI 72)	9.00	100	15.00
Deck Geometry (NBI 68)	9.00	100	25.00
Detour Length (NBI 19)	3.11	88.90	15.00
Posting (NBI 70)	5.00	100	25.00
Underclearances (NBI 69)	8.00	87	20.00

Distinct Count of Edition by Sport, and Gender



Initially supported by: AL, AK, CO, CT, FL, ID, IA, KS, LA, MA, MI, NH, ND, PA, RI, SD, TN, UT, VT (19)

General Dashboard:

- Tech Manual
- Clearance Tab
- QC/QA Process
- Import / Export Options
- Track Historical
- Utility and HI
- **Dashboards**
- Project Costings
- Multimedia
- Scheduled Tasks
- Tunnel Work Candidates
- 3D Inspection
- Tooltips
- Other Items



Initially supported by: AL, CO, CT, FL, ID, IA, KS, KY, NH, NM, NY, OK, RI, SD (14)

Project Costing Tools:

- Tech Manual
- Clearance Tab
- QC/QA Process
- Import / Export Options
- Track Historical
- Utility and HI
- Dashboards
- Project Costings
- Multimedia
- Scheduled Tasks
- Tunnel Work Candidates
- 3D Inspection
- Tooltips
- Other Items

Cost Estimator

Action Type v

Action v

Cost Profile v

Enabled	Field	Quantity	Unit	Cost	Subtotal
<input type="checkbox"/>	Deck Area	<input type="text" value="10,562"/>	SQFT	<input type="text"/>	

ID	Element	Quantity	Unit	Cost	Subtotal
300	Strip Seal <u>Exp</u> Joint (Replace)	<input type="text" value="562"/>	FT	<input type="text" value="\$27.00"/>	\$15,174.00
301	Pourable Joint Seal (Replace)	<input type="text"/>	FT	<input type="text" value="\$15.00"/>	
302	Compression Joint Seal (Replace)	<input type="text"/>	FT	<input type="text" value="\$30.00"/>	
510	Wearing Surface (Replace)	<input type="text" value="10,562"/>	SQFT	<input type="text" value="\$70.00"/>	\$739,340.00

Lump Sum Indirect

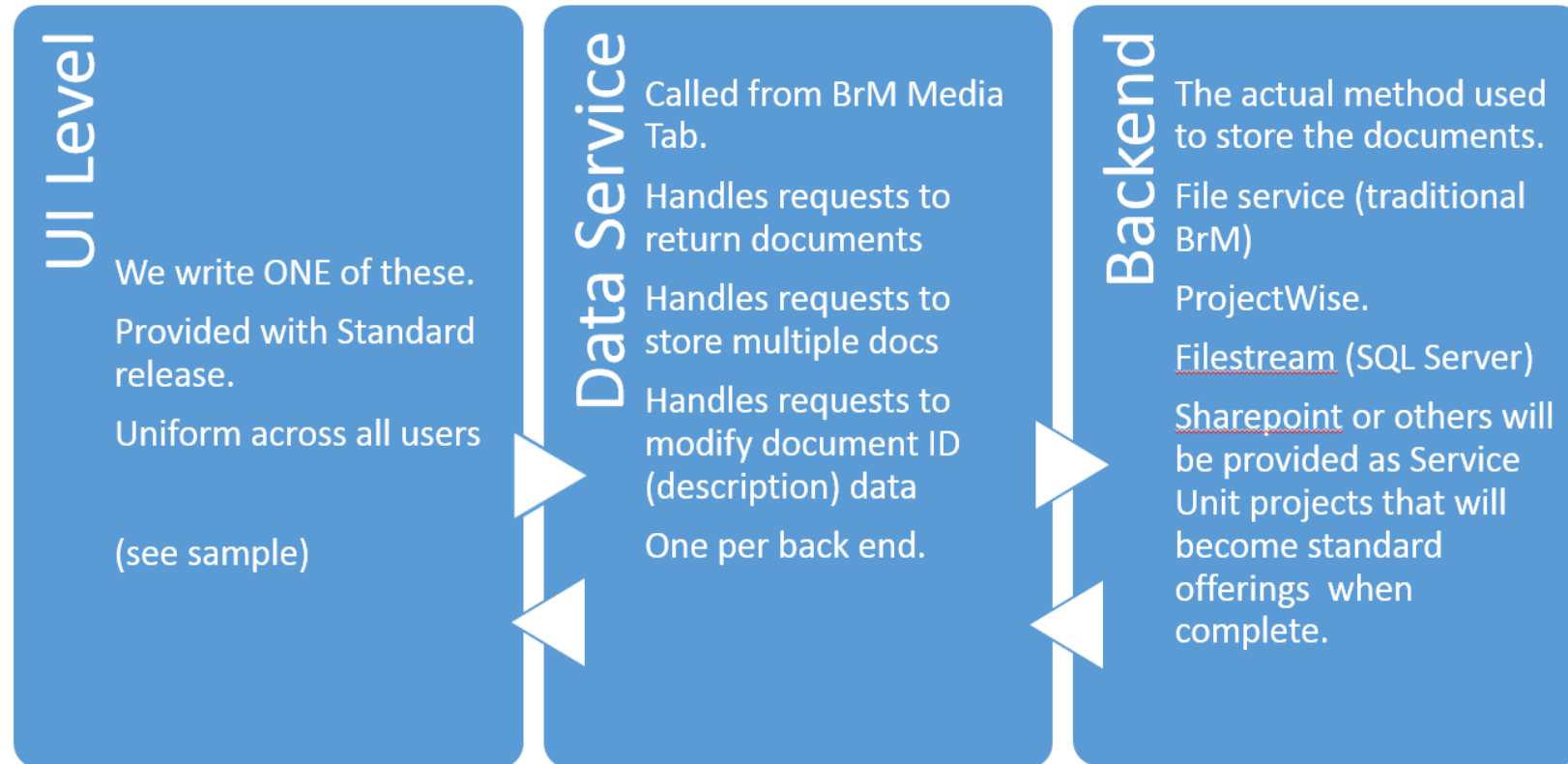
Percent Indirect

Work Candidate Total

Initially supported by: AK, CT, FL, IA, KS, KY, LA, MA, MI, NH, PA, RI, SD, TN, UT, VT, VA, WI (18)

Multimedia Interface:

- Tech Manual
- Clearance Tab
- QC/QA Process
- Import / Export Options
- Track Historical
- Utility and HI
- Dashboards
- Project Costings
- **Multimedia**
- Scheduled Tasks
- Tunnel Work Candidates
- 3D Inspection
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- Other Items



Task Scheduler / Scheduled Reports:

- Tech Manual
- Clearance Tab
- QC/QA Process
- Import / Export Options
- Track Historical
- Utility and HI
- Dashboards
- Project Costings
- Multimedia
- Scheduled Tasks
- Tunnel Work Candidates
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The screenshot displays the 'SCHEDULE PROCESS' web interface. At the top, a dropdown menu shows '25 - Update Suff. Rating'. Below this, the 'Process Info' section includes fields for 'Process Name: Update Suff. Rating', 'Time Created: 12/29/2014 3:08:43 PM', 'Created By: 939 - Fowler, Victoria', 'Last Modified: 3/9/2016 1:37:36 PM', 'Modified By: 1 - User, Pontis', and 'Last Run: 5/1/2016 8:24:25 PM'. A 'Last Run Result' section states 'Task completed successfully.' Below this are 'Save Process' and 'Delete Process' buttons. The 'Reports For Selected Process' section contains 'Add Report' and 'Save Reports' buttons. A 'Report' dropdown is set to 'Schedule Process - Update Suff. Rating'. An 'Arguments' section includes '@ShowDetail' with an unchecked checkbox. On the right, a list of users is shown: '939 - Fowler, Victoria', '665 - Yates, Benjamin', '350 - Christie, Eric', and '926 - Simmons, Karen'. A dropdown menu is set to '844 - Abdalla, Ramy', with 'Add User' and 'Remove User' buttons below it.

Scheduled Tasks Functionality Includes

- Running crystal reports at periodic intervals
- Emailing those reports to set individuals.
- Periodically running Validation (Submittal checks) or Sufficiency Rating calculations and notifying users of results.

Initially supported by: AL, AK, CO, CT, ID, LA, ND, PA, RI, SD, TN, VT (12)

Work Candidates for Tunnels:

- Tech Manual
- Clearance Tab
- QC/QA Process
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Inspection > Work > Work Candidates

Work

[Add New](#) Show All Show Open All Sources

Candidate ID	Action	Date Recommended	Target Year	Estimated Cost	Status	Work Assignment	Priority	Structure Unit	Date Completed	Description	Source
0000000- HBPQ- 081615- EDABE75FCE	Substructure-Patch spalls	7/24/2015	2015	(\$1.00)	Unknown	0	High	0 / Type = M		Substructure- Patch spalls	
798533B- 1DD4- 022317- D8B6FF2A7A	Deck Patch Spalls (Bridge Crew)	3/28/2016	2017	\$0.00	Unknown	0	High	0 / Type = M			Inspector Recommended

Type of Work

Candidate ID:
Structure Unit:
Action Type:
Action:
Date Recommended:
Priority:
Date Completed:
Target Year:
Assigned:
Work Assignment:
Status:
Source:

Work Estimates

Estimated Quantity:
Cost per unit:

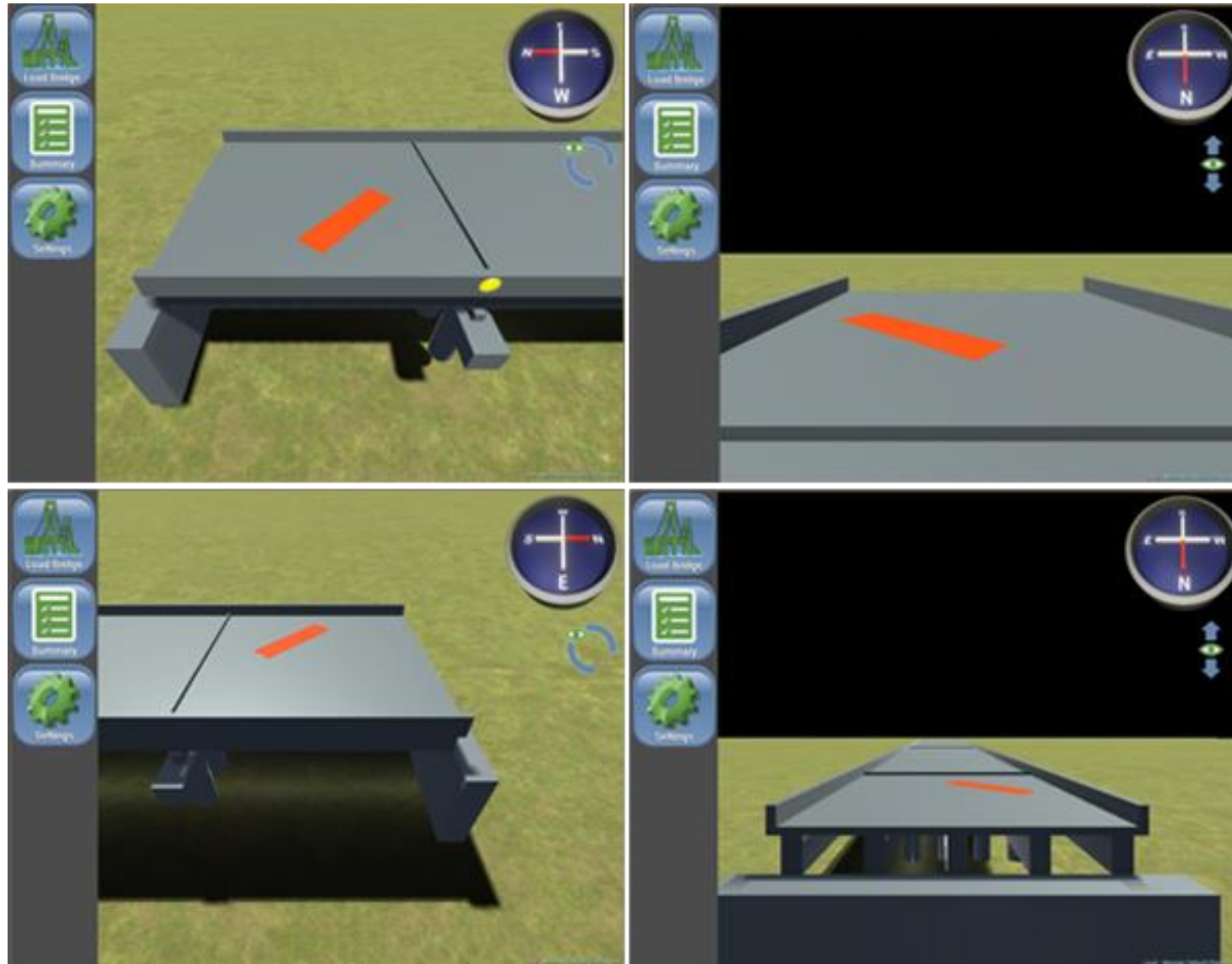
Estimated Cost (\$):

Generated by user "pontis" on 2/23/2017

Initially supported by: OR (1)

3D Inspection:

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Initially supported by: AL, CT, ID, MI, PA, UT (6)

Tool-tip Box turned into a right-click menu:

- Tech Manual
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The screenshot displays the 'Inspection > Appraisal' interface. A right-click context menu is open over the 'Calculated Appraisal Ratings' section. The menu options are: Back (Alt+Left Arrow), Forward (Alt+Right Arrow), Reload (Ctrl+R), View page source (Ctrl+U), and Inspect (Ctrl+Shift+I). The background interface is divided into several panels:

- Structural Appraisal:** Open/Posted/Closed (041): A Open, no restriction; Approach Alignment (072): 8 Equal Desirable Crit; Bridge Railings (036A): 1 Meets Standards; Transitions (036B): 1 Meets Standards; Approach Guardrail (036C): 1 Meets Standards; Approach Guardrail Ends (036D): 1 Meets Standards; Pier Protection (111): 2 In-Place, Functioning; Scour Critical (113): N Not Over Waterway; Fracture Critical Details: Hinges w/pin&hngcr assmt.
- Clearances:**
 - Minimum Vertical Clearances:** Over Structure (053): 99.016 ft; Under (Reference) (054A): R Railroad beneath struc; Under Clearance (054B): 26.509 ft.
 - Minimum Lateral Clearances:** Reference Feature (055A): R Railroad beneath struc; Right Side (055B): 12.008 ft; Left Side (056): 12.008 ft.
- Navigation Data:** Navigation Control Exists (038): NA-no waterway; Navigation Vertical Clearances (039): 0.000 ft; Navigation Horizontal Clearances (040): 0.000 ft; Minimum Vertical Lift Clearances (116): 0.000 ft.
- Calculated Appraisal Ratings:** Structure open, posted or closed to traffic; NBI Item 41; Table & Column: inspevnt.oppostcl; Datatype: char; Width: 1; Decimal Places: 0; Allow null: Y; Unique Key: N; Minimum: ABCDEFGHIJKLMNOP; Maximum: -1; Default: /_/; NBI Code: 041; Conversion Paircode: -1; Metric Units: -1; English Units: -1; Validation Type: LIST.
- Posting Loads:** Inventory (Type 1, 2, 3 ton); Operating (Type 1, 2, 3 ton); SHVs (SU4, SU5, SU6, SU7, NRL ton).

Initially supported by: AK, CO, FL, KS, KY, LA, PA (7)

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Other Items:

- Protective Systems and Environments
 - Initially supported by: CO, FL, OK, PA, RI, VT, VA (7)
- LCCA recursive analysis
 - Initially supported by: AL, AK, CT, FL, IL, MA, RI, VA, (8)
- Rule builders allow combined CS %
 - Initially supported by: IL (1)
- Import Process – More detailed errors
 - Initially supported by: AK, CO, ID, VT, VA, (5)
- Date of Improvement Change, for Target Setting
 - Initially supported by: CO, CT, FL, IA, NH, PA, RI, SD, TN, VT, (10)

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Other Items:

- Use User Formulas in Advanced Formulas
 - Initially supported by: CO, CT, IA, LA, MA, MI, PA, RI, TN, VT (10)
- Multi-asset Optimization
 - Initially supported by: CO, ID, KS, KY, PA, RI, VT (7)
- Training on how to use 5.2.3
 - Initially supported by: OK (1)
- Modtime for UserInsp / UserBrdg tables
 - Initially supported by: NH (1)
- User Fields on Utility and Structure Weight Formulas
 - Initially supported by: CO, VT (2)

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Other Items:

- Maintain Legacy Primary Keys
 - Initially supported by: MI (1)
- Provide services to clear the server cache
 - Initially supported by: FL (1)
- NBE / BME / ADE XML upload
 - Initially supported by: WI (1)
- Capability to make Mapping Read-only.
 - Initially supported by: FL (1)
- Multimedia for Tunnels
 - Initially supported by: CT (1)