

# AASHTOWare Bridge Management (BrM) Task Force Meeting Minutes

## June 16 – 18, 2015

### Boise, ID

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## General Information - Meeting of the Bridge Management Task Force

### Participants:

AASHTO	
Judy Skeen	Project Manager
BrM Task Force	
Eric Christie	Alabama DOT
Beckie Curtis	Michigan DOT
Mark Faulhaber	Kentucky TC
Thomas Martin	Minnesota DOT
Bruce Novakovich	Oregon DOT
Derek Constable	FHWA Liaison
Todd Thompson	South Dakota DOT
Guests	
Zach Boyle	Utah DOT
Patty Fish	Idaho Transportation Department
Dan Gorley	Idaho Transportation Department
BrDr Task Force	
Dean Teal	Kansas DOT
Jeff Olsen	Montana DOT
Amjad Waheed	Ohio DOT
BrM Contractor	
Jeremy Shaffer	Bentley Systems, Inc.
Josh Lang	Bentley Systems, Inc.
Rob Schultz	Bentley Systems, Inc.

### Note takers:

Rob Schultz/Judy Skeen



## 0. Review Agenda and Assign Minutes Recorder

- Rob Schultz from Bentley Systems to record meeting minutes
- Add the following items to discussion item 7. BrM 5.2.3 – Beta Testing discussion
  - Validation
  - New Inspection screen and handling of dates
  - Reports overwriting reports
- Add the creation of a good workflow/life cycle (inspection → bridge analysis → deterioration modeling → project plan) example to discussion item 8. BrM 5.2.3 – Deterioration Modeling Enhancements

## 1. Prior Business

### a. Review April Meeting Minutes

- The Boston, MA meeting minutes were approved with no changes.

### b. Review Prior Action Items

### c. BrMUG Status Updates

- No Change.

## 2. Project Update

### a. Budget and Schedule

- Translator Logic – It was discussed that the research and documentation will be billed to TM1 as part of Defect Deterioration Modeling.

### b. Customer Support Statistics

- High utilization for two agencies.

### c. Service Units

- Montana DOT RFP – According to the points scoring, Advitam won the bidding.
- The discussion surrounding the tiered asset support will be tabled for the next catalog.

### d. License Revenue Report

- Nothing exists as an outlier in this report.

## 3. FHWA Update

- **Regulatory and other Federal Actions:**

- *National Bridge Inspection Standards:* NPRM for NBIS under internal review. Tentative release for comment is October 2015. SNBI (coding guide) will be released for comment with NPRM or prior.
- *National Tunnel Inspection Standards:* NTIS final rule tentative release July 2015 (last reported as June 2015). Approved by USDOT Secretary and under review by Office of Management and Budget. NHI Tunnel Safety Inspection course, TOMIE Manual and the SNTI (coding guide) will be available with release of NTIS. Draft TOMIE Manual and coding guide are on FHWA website (note that these are outdated).

- *Performance Measures Rulemaking*: NPRM for bridges and pavement closed May 8, 2015. 126 comments received.
- *Asset Management Rulemaking*: NPRM closed May 29, 2015. 55 comments received.
- *Proposed Bridge Classification System*: Map-21 Section 111 requires the FHWA and States to classify bridges according to serviceability, safety, and essentiality for public use, and include potential impacts to emergency evacuation routes and to regional and national freight and passenger mobility if the serviceability of the bridge is restricted or diminished. Using the classification we are then to assign each a risk-based priority for systematic preventive maintenance, replacement, or rehabilitation. It does not say what the classification shall be used for however. The proposed classification system will be posted for comment in the Federal Register in 2015 or 2016.
- *Element-Level Data non-NHS bridges*: MAP-21 directed FHWA to conduct a study on benefits, cost-effectiveness, and feasibility of collecting element data for bridges not on the NHS and to submit a report to the House T&I and Senate E&PW Committees. We used data and information from the NBI, FHWA annual bridge inspection summary reports, a survey of the States, Counties and Federal agencies, and previous national surveys. A draft report is under review. We expect the report to be issued to Congress in 2015.
- *NBI Coding Guide*: New draft guide near complete with the expectation of making it available for public comment with the NBIS NPRM. T-18 has reviewed the draft excluding sections that indicate content of NBIS NPRM. Significant changes include: consistency with NBIS NPRM, XML file format, and multiple new items to assist in data driven risk-based oversight, ex. substructure material and design type, scour POA, seismic vulnerability, load rating date, posting date, posting loads, complex feature inspection and frequency type, railing, bearing, joint condition ratings, etc. Items used to determine structural deficiency largely unchanged because of MAP-21 penalty provision that States with >10% NHS deck area classified as SD for three years in a row must allocate from their National Highway Performance Program funds an amount equal to 50% of their 2009 Highway Bridge Program funding level.
- **FHWA Training Delivery & Development:**
  - *Element-Level Bridge Inspection*: FHWA Resource Center has completed 75 sessions with 3,454 participants. Requests continue with 8 future sessions scheduled.
  - *NHI Bridge Inspection Course Updates*: A comprehensive course update will be available in 2015 or 2016. It will incorporate criteria from the 2013 AASHTO Manual for Bridge Element Inspection and will include current information on post-tensioning systems. Minor refresher course updates have already been made to reflect the above.
  - *NHI Tunnel Inspection*: This new 5 day long course will be available when the NTIS final rule is released. Refresher course is in development and will be tentatively available in 2017. FHWA will fund the attendance of 2 State staff at regional training sessions.
  - *NHI Bridge Preservation Web-Based Courses*: Three courses released in June 2015, \$50 each.

- 130106A Bridge Preservation Fundamentals (5 hours) - Defines preservation work activities and categories, explains benefits of preservation and how to transition from a reactive to proactive program, and provides information on cost-effective deck, superstructure, substructure and culvert activities.
- 130106B Establishing a Bridge Preservation Program (4 hours) - Provides a framework for a program including identifying objectives, goals and performance measures, conducting needs assessments developing a program strategy and prioritizing activities. Discusses logistics of data collection, data management, budgeting and resource allocation, work plan development, implementation and monitoring.
- 130106C Communication Strategies for Bridge Preservation (3 hours) - Discusses strategies to gain and maintain support for a program including identifying agency champions, target customers and stakeholders, conducting market research and communicating needs and benefits to stakeholders and the public.
- *NHI Bridge Maintenance Course Update*: This 4 day instructor lead training and reference manual are under major revision to bring up to current standard and practice. Manual will include more procedural steps and job-site checklists for different maintenance actions. Will also include web-based training specific to steel coatings, movable bridges and masonry (2-3 hrs each). Tentative pilot in summer 2015 and available in 2016.
- *NHI Bridge Management Fundamentals & Performance Based Management of Bridges*: These two web-based courses are approximately 4 hours each. Pilots completed in March. Courses expected to be made available in 2015.
  - Bridge Management Fundamentals is a high level course that presents bridge management concepts with respect to its benefits, the organizational structure and components of a bridge management approach, the analytic aspects of a BMS including types of data input, computational models and output, considerations when selecting a BMS tool, steps to implementing a BMS, and effectively using a BMS and its output. Agency perspectives are also presented.
  - Performance Based Management of Bridges is a high level course that presents how bridge management tools assist with performance management, the use of performance measures, and assessment of cost-effectiveness using life cycle cost analysis and benefit cost analysis concepts, the assessment of risk, and communicating the benefits of bridge management tools and performance based bridge management. The course does not address proposed regulatory requirements on performance measures.
- *NHI Transportation Performance Management for Bridges*: This course is in development and expected to be released about the time of the final rule for NHS bridge performance measures. The course will be 1 day. It will address MAP-21 and regulatory requirements for performance measure target setting and reporting. It will present information on bridge performance data, performance measures, FHWA NHS performance measures, the process

of target setting (which will have its basis in the asset management plan regulation analysis, management system, investment strategy and finance plan requirements), and development of bridge programs in response to targets.

- **OTHER:**

- *NCHRP 20-07 Task 378 Assessing Risk for Bridge Management:* The objective is to develop a framework for inclusion in a BMS that assesses probability of occurrence and consequence to bridges and public. RFP released to short list March 27, 2015 with selection occurring in June.
- *NCHRP 14-36 Proposed AASHTO Guide for Bridge Preservation Actions:* The objective is to develop a bridge preservation guide for possible adoption by AASHTO. The proposed guide shall be developed based on data collected from representative agencies. At the minimum, the guide shall include: (1) a catalog of bridge element preservation actions and (2) the criteria and selection methodology of bridge preservation actions with associated costs and benefits for use in life-cycle cost analysis and possible integration into a bridge management system. RFP posted March 27, 2015 with selection occurring in June.
- *NCHRP 08-36 Development of Transportation Asset Management Plan Templates:* This project will result in the development of a Guidebook on Preparing a Transportation Asset Management Plan and electronic templates for use by state highway agencies to assist them with the preparation of the Transportation Asset Management Plans required under MAP-21. Both the Guidebook and electronic templates will supplement the AASHTO Transportation Asset Management Guide: A Focus on Implementation, *Chapter 4*, Transportation Asset Management Plan. Tentative completion June 2015.
- *NCHRP Report 806 Cross-Asset Resource Allocation and the Impact on System Performance:* Provides a framework and tool for allocating resources among asset classes. The optimization uses a multi-objective analysis approach with utility functions to define benefits. Uses information and prioritization from applicable asset management systems however the process is not dynamic as it lacks communication with asset management system beyond using the initial priorities data, i.e. unlike asset management systems, as initial asset specific priorities are not selected because are not found to be optimum in the cross asset optimization, the tool is unable to include and analyze less than optimum solutions and incorporate LCC implications for each asset type. Report published May 2015. Can also refer to 2012 NCHRP Report 736 Resource Allocation Logic to Meet Highway Asset Preservation.
- *NCHRP Synthesis 20-05/Topic 46-15 Life Cycle Cost Analysis of Preservation and Replacement of Highway Assets:* Objective is to develop an inventory of quantitative asset-level or project-level models for predicting life cycle costs. It will synthesize literature including methods for estimating agency, user, and non-user costs, for selecting a discount rate, and for quantitatively modeling the uncertainty of costs. It will also gather literature on deterioration and effectiveness of actions, and information on existing LCCA tools in use by agencies. 2014 start.

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- *NCHRP 12-104 Guidelines to Improve the Quality of Element-Level Bridge Inspection Data:* The objective is to develop guidelines to improve the quality of element-level data collection for the NHS Bridges in reference to the *AASHTO Manual for Bridge Element Inspection*. At the minimum, the guidelines should include recommendations to: (1) improve consistency in data collection and assessment of bridge element conditions and (2) establish accuracy levels for element conditions and applicable defect quantities to support bridge management system deterioration forecasting and evaluation. RFP released 2015.

## 4. Quarterly Status Report

- The Task Force would like to get a draft of this within a week or two of the Boise Task Force Meeting. This will be done using MailChimp again.
- MailChimp statistics from the last quarterly status report:
  - 51.5% open rate
    1. 120 Users Opened
    2. 870 Total Opens
    3. Industry average: 14.8%
  - 9.4% click rate
    1. 22 Users Clicked
    2. 67 Total Clicks
    3. 18.3% Clicks/Unique Open
    4. Industry average: 1.1%
  - 12 Users Bounced
  - 1 User Unsubscribed
- Topics for next Quarterly Status Report:
  - BrM 5.2.2 BETA
    1. By July 20, 8am – The testing TAG will be able to test
    2. TAG is meeting on 7/24 and 8/7
    3. Include details (GUIDs, Metric/English)
  - BrM 5.2.3
  - Ajax Uploader – Licensing issues
  - Tunnels – Preliminary tracking via spreadsheet to coincide with the release of the final ruling for NTI based on what we know from that, there will be a quick submittal for inventory data (spreadsheet).
  - Web Services
  - User Group meeting – Scheduled. Provide the link to the website.
  - Webinars – Mention the location on the site. Projects Webinar

## 5. Tunnel Proposal

- Rollout Plan:



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### ○ Spreadsheet

1. The Task Force is in agreement that Bentley should get started on developing this to be prepared for the announcement
2. This will be developed under BrM 5.2.3 Task Force Directed Tasks
3. 2 weeks to deliver a spreadsheet (~\$20k)
4. Will make use of the coding guide
5. Will need the format for the Federal Highway submittal

### ○ Phase 1. \$200,000

1. The Task Force will ask the SCOJD for funds to enhance BrM to be able to handle different assets (Tunnels, lights, walls, culverts, etc.) through a RIPI
2. Timeframe/Level of Effort
  - How does the Task Force want this delivered?
    - With BrM 5.2.3
    - As a Service Pack of 5.2.3
  - The timing of when this has to be completed will be contingent upon what is mandated in the rule making.

### ○ Phase 2. \$100,000

1. The funding for phase 2 will come from a call to the states
2. Tunnel specific Inventory/Inspection screens

## 6. Web Services Proposal

- General view – this is something that makes sense for BrM to use. Not many agencies are positioned to use this right this moment, but it makes sense for AASHTO to build this into the software to control/own the direction of the Web Services moving forward.
- In BrM 5.2.2 we have an API/SDK currently. This is mainly for form building and systems that exist in the same environment. This is an offline API.
- The Web Services will allow remotely located applications to communicate with the BrM instance.
- This ties into the conversation that we were having with Mississippi and Wyoming. They will be using the version that was created with InspectTech.
  - The InspectTech team wrote part of the Web Services already, due to a business need. The InspectTech will hand over what has been developed already for the BrM team to expand upon.
- This will be a separate installation from BrM 5.2.3. Josh does not want this to be a part of the core installation due to the hassle that agencies may have in setting it up due to security restrictions
- Currently InspectTech is developing this, but without a lot of validation built in. If BrM owns the Web Service now, they can control the validation that occurs.
- Bentley wants to work with the Database TAG to decide what we want the Web Services to allow
  - Multi-directional communication – current implementation is only data entry, not full loop.
  - Big advantage of the web services component is the fluidity of updates



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- Risk – Agency support hours will increase due to extending BrM from its “Internal” nature to an external environment.
- 3<sup>rd</sup> Party Vendor – If a 3<sup>rd</sup> party vendor sends bad data or has issues, this would be logged to a state DOT.
- Multimedia component benefits – currently there is no way for BrM to send pictures from a workstation to the enterprise version and retain the document links.
- This would become a part of Task Force Directed Tasks as a part of BrM 5.2.3
- SCOJD controls the capitalization funds. AASHTO is able to make proposals for research and innovation to further the projects. This would make it easier for BrM and Project to talk with one another.
- Due to availability on Bentley’s side, is this something that we can start now?
- The Task Force approves up to \$96,100 as specified in the Web Services Proposal (handout BrM-BI-6). Moving forward, Bentley will include a breakdown specifically to the Web Services so that the Task Force can stay up to date on
- The Database TAG is interested in looking for a way to code their own web services on top of the application.

## 7. BrM 5.2.2 – Beta Testing

- The Task Force would like the Installation Guide to be updated to indicate what needs to be done to avoid items being overwritten during the installation process. Nuances such as reports, custom element PDS, need to be identified.
- Discuss Inspection Process
  - Bridge List – PDF download is taking a significant amount of time.
  - Bridges > New Inspection – Add Bridge Number
  - Inspection > Schedule
    1. Date Entered needs to be a new field.
    2. Date Entered needs to be read only, but needs to be configurable to not be read only.
    3. Ensure that all of the “Types of Inspection Performed” fields can be made “editable” from the admin tab – default state – all fields should be shipped unlocked
    4. Add inspection date back to the field.
- Outstanding issues for 5.2.2
  - Bentley does not see anything that is a showstopper
  - Eric would like to know when Bentley will have all of the issues addressed.
  - Josh is estimating that we’re a couple of weeks away from having the software issues addressed.
  - Bentley will address the issues identified today and then have a BETA 3 release.
  - Bentley will continue to make fixes to the demo sites and notify the Testing TAG of what issues have been addressed.
- Bentley will be onsite with Florida DOT the second week of July.
- Patty indicated that Service Packs should not require a complete reinstall of the software.

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- Moving forward, in BrM 5.2.3, we'll do early testing on the demo sites. In later testing stages we'll continue testing on the demo site.
- The Task Force would like Bentley to publish a Beta 3 in a couple of weeks. This will include all remaining identified bugs, minus the 3 database-related bugs/issues that are currently pending.
- Derek brought up an issue that Bruce mentioned months ago – The Health Index and the weight of paint on the Health Index.
  - Ex. For every linear ft you have you have 12 sq ft of paint. You can have the same type of bridge with 2, 3 or 4 times as much paint
  - Beckie indicated that you cannot just plan for the future based off of health index alone. You need LCCA or something else.
  - For BrM 5.2.2, do we reduce the benefit of Paint to ZERO? Tabled until tomorrow.
    1. Out of the box, all protective systems are set to ZERO.
      - Protective Systems are:
        - 521 Concrete Protective Coating
        - 515 Steel Protective Coating
        - 510 Wearing Surfaces
        - 520 Concrete Reinforcing Steel Protective System
- Discuss the creation of a script that goes through and brings the elements forward (2015-BrM-037)
  - In 5.2.2 if your first inspection for a bridge does not have any elements the software will look back at the last inspection that includes ANY elements and bring those elements (and their condition states) forward, regardless of the number of elements that are tied to a bridge.
  - Bentley would like to run a script that will move ALL bridge elements from the last NBI inspection into the most recent inspection.
- Discuss Validation
  - FHWA released the validation rules on their website. Bentley ensured that BrM 5.2.2 is running all of the validation checks. In talking with FHWA, several of these checks are not run in the online checker. BrM will return more errors than the actual online checker.
- Discuss the Ajax Uploader License
  - Eric would like Bentley to put together a write-up to distribute to end users.

## 8. BrM 5.2.3 – Deterioration Modeling Enhancements

### a. Deterioration Modeling Sample Set

The BrM Task Force discussed modeling examples and associated issues related to the development of the Deterioration Modeling Sample Set for approximately four (4) hours. Task Force Member may be contacted directly to obtain a detailed account of the discussion. The Deterioration Modeling Sample Set will be published at a later date.

### b. User Community Survey

Participants could not recollect why this was added to the agenda. This was skipped.

## 9. BrM 5.2.3 – Task Force Directed Tasks (Deferred Tickets and TRT/TAG Requests)

- 2015-BrM-017. Incorporate options for actions to enable users to choose how the action should be applied (entire element, CS2, or CS3)
- a. **Deferred Tickets and TRT/TAG Requests**
  - The following tickets were decided to be addressed by Bentley in BrM 5.2.2:
    1. BRMBETA-597 – The User Key will be maintained.
    2. PONWEB-1221
    3. PONWEB-1299
    4. PONWEB-1070 – Should be able to make it a PDF or XLS file, or Print.
    5. PONWEB-1115 – For each element, they want to be able to pick a different condition state and add a note. Condition States can only be added to Defects, not to elements as per the Coding Guide.
    6. PONWEB-705 – New Work Candidates are now NULL, but prior Work Candidates are using 01/01/1901. All of the Work Candidates do not display in Analysis because they have a “1901” work completed date.
    7. PONWEB-796
    8. PONWEB-1404
    9. PONWEB-1403
    10. BRMBETA-568 – Utah Rep. has indicated that he knows it works for Utah.
    11. Print functionality on Bridges > Mapping does not print what is represented by the Map on the screen.
  - The following tickets were decided to be addressed by Bentley in BrM 5.2.3:
    1. PONWEB-1300
    2. PONWEB-1305 – This should be associated with the ability to role-specific filters.
    3. PONWEB-1296
    4. PONWEB-1065 – This should be configurable via C-OPTION – Contains or Equals
    5. PONWEB-854
    6. PONWEB-1095
    7. No ticket? – The ability to package up elements of the software (i.e. screen, filter, etc.) and share it with other agencies.
    8. PONWEB-1211
    9. PONWEB-681/PONWEB-870/PONWEB-875/PONWEB-881/PONWEB-885/PONWEB-898/PONWEB-1214/PONWEB-1283 – All PDI.
    10. PONWEB-1222
    11. PONWEB-1080
    12. PONWEB-1091 – Agency defined.
  
    13. PONWEB-1094 – Agency defined.

14. PONWEB-1096
  15. PONWEB-1098
  16. PONWEB-1213
  17. PONWEB-1219
  18. PONWEB-1248
  19. PONWEB-677
  20. NEW TICKET – When you go through and validate all of your structures – provide a way to print only errors. Put the error-free bridges at the bottom? – This is related to PONWEB-758. Give users the ability to export to excel and PDF. Excel will enable users to sort as necessary. Alabama has a scheduled process that has parameters that may be able to be repurposed.
  21. PONWEB-807
  22. PONWEB-821 – The button is not available when there are users assigned to the group. Need to ensure that this is documented.
  23. PONWEB-868
  24. PONWEB-869
  25. PONWEB-884 – Ensure that this is addressed in the documentation. Need to look into what isn't working and report back.
  26. PONWEB-911
  27. PONWEB-914
  28. PONWEB-926
  29. PONWEB-928
  30. PONWEB-946
  31. PONWEB-951 – No action, but this needs to be documented in the User Manual as a limitation of PDI.
  32. PONWEB-837 – Need to continue the investigation.
  33. PONWEB-950 – Needs to be addressed via the documentation.
  34. PONWEB-973
- The following tickets will be deferred for future discussion:
    1. PONWEB-1403 – Thomas is going to have a discussion with other experts.
    2. PONWEB-1079 – This needs to remain deferred. This can/should be revisited as part of the Web Services discussion.
    3. Various Requested Database TAG enhancements
    4. PONWEB-1131 – This ticket should be changed to an enhancement request and deferred for future discussion.
    5. PONWEB-1157 – Deferred. Patty and Bruce both thought that this was not necessary.
    6. PONWEB-1205 – Deferred.
    7. PONWEB-167
    8. PONWEB-758
    9. PONWEB-851

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10. PONWEB-852 – Deferred
  11. PONWEB-889
  12. PONWEB-935
  13. PONWEB-980
  14. PONWEB-834
  15. PONWEB-981
  16. PONWEB1083
  17. PONWEB-908
  18. PONWEB-912
  19. PONWEB-915
  20. PONWEB-921
  21. PONWEB-924
  22. PONWEB-939
- The following tickets will be closed:
    1. PONWEB-996
    2. PONWEB-970
    3. PONWEB-816
    4. PONWEB-847
    5. PONWEB-874
    6. PONWEB-904
    7. PONWEB-917
    8. PONWEB-1116 – The Task Force did not like the idea of being able to go back and modify a past inspection. No action.
    9. PONWEB-20 – Close.
    10. PONWEB-858 – Already complete.
    11. PONWEB-1076 – Ensure that the documentation appropriately explains how roles work.
    12. PONWEB-1063 – At this time, there are no canned reports defined for BrM 5.2.3. That does not mean that there will not be any, but none have been identified. Users who have created reports can share the reports with one another.

### **b. Benefits Group Whitepaper**

- Replacement Costs
  1. Universal override for an action's cost based on deck square footage.
- Beckie – You would want rules to be applied whenever you run your reverse calculation. No matter what action.
- The TRT would like for actions to belong to actions. Josh's concern is that the user interface becomes cumbersome in a nested grid that is difficult to navigate.
  1. Josh would like Benefit groups to belong to benefit groups
  2. Benefit groups would be rolled into an action

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3. Beckie – What if we just had out of the box rules that accomplish the goal (ex. Rehab structure so that you didn't have to program rehab beam and structure at the same time)
  - Parent/Child relationship for Benefit Groups
  - Currently, in the software there are limitations. These will be added to BrM 5.2.3:
    1. Add/Remove/Change Protective System
    2. Add/Remove/Change Defect
      - Ability to remove all defects.
    3. Add/Remove/Change Element
  - From Deferred Tickets
    1. Need to revisit PONWEB-1209 as a part of this.
    2. Need to revisit PONWEB-1083 as a part of this.

## 10.BrM 5.2.3 – Scenario Explorer and Setup – Open Discussion

Due to the number of items that were addressed, this item was not covered.

## 11.BrM 5.2.3 – Redesign of User Interface

- Take a look at how this design looks for users with color deficiencies.
  - Red field outlines
  - Yellow dirty field indicators

## 12.September User Group

- **Agenda Edits:**
  - DAY 1
    1. 20 minutes after Shane Marshall – UDOT will speak on how they provide Shane Marshall with what he needs from the Asset Management System
    2. 11:30 am – JIRA/Bug Policy – Rob Schultz
    3. 01:00 pm – Show And Tell (Need to identify agencies to showcase)/ 5.2.1 Success Stories?
      - Alabama Scheduled Processes – Sufficiency Validation/Nightly, Weekly validation/Email User List of errors
      - Utah Custom Crystal Reports
      - Michigan – 3D Inspection Module
    4. 03:00 pm – BrM 5.2.2 GUIDs
      - Explanation of what was changed (30 min, Bentley)
      - Show examples of before and after
        - Utah Crystal Reports (20 min, Zach Boyle)
        - Minnesota Crystal Report (20 min, Thomas Martin)
      - New Inspection Process (30 min, Bentley)

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- Security on the page
- DAY 2
  1. 08:15 AM – Deterioration Modeling/Bridge Life Cycle (Beckie Curtis, 1hr)
    - How did the default models get in there?
    - Customizations that were made
    - Example of life cycle/Golden Child
  2. 10:00 AM – 5.2.3
    - LCCA
    - Performance measures/Screens
    - NBI Deterioration
    - Program Prioritization
    - Network Level Analysis v. Bridge Level Analysis
    - How MAP-21 will be met by the end of 5.2.3
- **User Group Survey**
  - Ask for Name, Organization, and email
  - Modify 6 or 7. “...or newer version...”
  - Add question “What version of BrM do you plan to upgrade to?”
  - Add question to follow the above question – “Why do you plan on upgrading to that version?”
  - Add question “Are you planning on upgrading to a new web browser, if so, what?”
    1. Add Edge
  - Add question “Are you planning on upgrading to a new web browser, if so, when?”
    1. 1-6 months
    2. 6-12 months
    3. 12+ months
  - Question 18 – 23, add “N/A” option
  - Question 14 – modify to be “AASHTOWare Bridge Management/PONTIS” in question
    1. Network Budgeting should be changed to “Network/Scenario Analysis”
  - Question 15 & 16 – Remove
  - Question 17 – Modify to be “Are you using software in addition to BrM for Data Collection? If so, what?”
  - Question 20 – Remove.
  - Question 21 – Remove.
  - Question 22 – Just say “BrM” no version.
  - Documentation section – Remove entire section.
  - Training Webinars section – Add a lead in directing the user to AASHTOWAREBRIDGE.COM website for the webinars to ensure that they are aware that it even exists
  - Communication section – Remove the Consultant lead in.
    1. Remove the “Member Agency Residents Only” from questions
    2. Remove question 46

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- Add question – Would your agency be interested in collecting other asset information (ex. Tunnels, lights, culverts, lights, walls, signs, other)
- Add question – What would you use it for? (Inspection, Management/Analysis, Both)
- Add question – Do you currently have any 3<sup>rd</sup> party tools that are using the data stored in BrM? If so, what tools.

## 13.Review Action Items

## 14.Executive Session Discussion



## Attachment A: Listing of AASHTOWare Bridge Task Force, TAG and User Group Personnel

<b><u>AASHTOWare Bridge Task Force</u></b>		
Thompson, Todd	South Dakota DOT, Chair	todd.thompson@state.sd.us
Skeen, Judy	AASHTOWare Project Manager	jskeen@ashto.org
Johnson, Bruce	SCOJD Liaison, Oregon DOT	bruce.v.johnson@odot.state.or.us
Ballou, Wally	T&AA Liaison, Kansas DOT	Ballou@ksdot.org
<b><u>Bridge Design/Rating (BrDR) Members</u></b>		
Dietsche, Joshua	BrR Wisconsin DOT	joshua.dietsche@dot.wi.gov
Olsen, Jeff	BrD, Montana DOT	jolsen@mt.gov
Saad, Tom	FHWA Liaison, FHWA Resource Center	Thomas.saad@dot.gov
Teal, Dean	BrD, Kansas DOT	teal@ksdot.org
Waheed, Amjad	BrR, Ohio DOT	Amjad.Waheed@dot.ohio.gov
<b><u>Bridge Management (BrM) Members</u></b>		
Christie, Eric	BrM, Alabama DOT, Vice Chair	christiee@dot.state.al.us
Constable, Derek	FHWA Liaison, DC	derek.constable@dot.gov
Curtis, Beckie	BrM, Michigan DOT	CurtisR4@michigan.gov
Faulhaber, Mark	BrM, Kentucky Transp Cabinet	mark.faulhaber@ky.gov
Martin, Thomas	BrM, Minnesota DOT	Thomas.Martin@state.mn.us
Novakovich, Bruce	BrM, Oregon DOT	bruce.d.novakovich@odot.state.or.us
<b><u>Michael Baker Jr., Inc.</u></b>		
Duray, James A.	BrDR Contractor	jduray@mbakercorp.com
Lee, Herman	BrDR Contractor	hlee@mbakercorp.com
<b><u>Bentley Systems, Inc.</u></b>		
Shaffer, Jeremy	BrM Contractor	Jeremy.Shaffer@bentley.com
Lang, Josh	BrM Contractor	Josh.lang@bentley.com
Schultz, Rob	BrM Contractor	Rob.Schultz@bentley.com
Tiwary, Shelly	BrM Contractor	Shelly.tiwary@bentley.com
Wagner, Rick	BrM Contractor	Rick.wagner@bentley.com
<b><u>BrDR Testing TAG</u></b>		
Teal, Dean	Kansas DOT, TAG Chair	teal@ksdot.org
Olsen, Jeff	Montana DOT, Co-Chair	jolsen@mt.gov
Barnett, Nick	Illinois DOT	Nicholas.Barnett@illinois.gov
Befikadu, Elizabeth	AI Engineers	ebefikadu@aiengineers.com
Crudele, Brenda	New York State DOT	bcrudele@dot.state.ny.us
Dietsche, Joshua	Wisconsin DOT	joshua.dietsche@dot.wi.gov
Gillis, Matt	Connecticut DOT	Matthew.gillis@ct.gov
Hasan, Mac	Colorado DOT	Mahmood.hasan@state.co.us

**Redacted**

Huang, George	CalTrans	George_huang@dot.ca.gov
Jones, Daniel	Alabama DOT	jonesdan@dot.state.al.us
Kappes, Bethany	Montana DOT	bkappes@mt.gov
Kellogg, Wes	Oklahoma DOT	wkellogg@odot.org
Larkins, Christal	Michigan DOT	larkinsc@michigan.gov
Litchfield, Phillip	Illinois DOT	Phillip.Litchfield@Illinois.gov
Mallard, John	Virginia DOT	Jonathan.Mallard@vdot.virginia.gov
McMunn, Creightyn	Michigan DOT	mcmunnc@michigan.gov
Murgoitio, Shanon	Idaho DOT	Shanon.Murgoitio@itd.idaho.gov
Ruby, Jeff	Kansas DOT	JRuby@ksdot.org
Thompson, Todd	South Dakota DOT	todd.thompson@state.sd.us
Vinayagamoorthy, Vinacs	CalTrans	murugesu_vinayagamoorthy@dot.ca.gov
Waheed, Amjad	Ohio DOT	Amjad.Waheed@dot.ohio.gov
Woldemichael, Berhanu	Alabama DOT	woldemichaelb@dot.state.al.us

**BrDR Design Tool TAG (DTAG)**

Olsen, Jeff	Montana DOT, Chair	jolsen@mt.gov
Teal, Dean	Kansas DOT, Co-Chair	teal@ksdot.org
Barnett, Nicholas	Illinois DOT	Nicholas.Barnett@illinois.gov
Befikadu, Elizabeth	AI Engineers	ebefikadu@aiengineers.com
Crudele, Brenda	New York State DOT	bcrudele@dot.state.ny.us
Ehrlich, Arielle	Minnesota DOT	arielle.ehrlich@state.mn.us
Hasan, M. Mac	Colorado DOT	Mahmood.hasan@state.co.us
Kappes, Bethany	Montana DOT	bkappes@mt.gov
Ruby, Jeff	Kansas DOT	JRuby@ksdot.org
Woldemichael, Berhanu	Alabama DOT	woldemichaelb@dot.state.al.us

**BrDR Reports TAG (RTAG)**

Waheed, Amjad	Ohio DOT, Chair	Amjad.Waheed@dot.ohio.gov
Curtis, Beckie	Michigan DOT	CurtisR4@michigan.gov
D'Andrea, Arthur	Louisiana DOT	Arthur.D'Andrea@la.gov
Olsen, Jeff	Montana DOT	jolsen@mt.gov
Stark, Richard	New York State DOT	Richard.Stark@dot.ny.gov
Thompson, Todd	South Dakota DOT	todd.thompson@state.sd.us
Wang, Cindy	Ohio DOT	cindy.wang@dot.state.oh.us

**BrDR User Group (RADBUG)**

Crudele, Brenda	New York DOT, President (BrD)	bcrudele@dot.state.ny.us
Litchfield, Phillips	Illinois DOT, Vice President (BrR)	Phillip.Litchfield@Illinois.gov
Ruby, Jeff	Kansas DOT, Vice President (BrD)	JRuby@ksdot.org
Schroeder, David	Montana DOT, Secretary	daschroeder@mt.gov

**BrM Testing TAG**



**Redacted**

Novakovich, Bruce	Oregon DOT, Chair	Bruce.D.Novakovich@odot.state.or.us
Emery, Ron	Maine DOT	Ronald.Emery@maine.gov
Fish, Patty	Idaho DOT	patty.fish@itd.idaho.gov
Laughlin, Chris	Florida DOT	Christopher.Laughlin@dot.state.fl.us
Lewis, Edward	Kansas DOT	edwardl@ksdot.org
Martin, Thomas	Minnesota DOT	Thomas.Martin@state.mn.us
Nazareth, Craig	Rhode Island DOT	cnazareth@dot.ri.gov
O'Donnell, Larry D.	FHWA Resource Center	Larry.o'donnell@fhwa.dot.gov
Thompson, Todd	South Dakota DOT	Todd.thompson@state.sd.us

**BrM Database/API TAG**

Martin, Thomas	Minnesota DOT, Chair	Thomas.Martin@state.mn.us
Barut, Joseph	Wisconsin DOT	Joseph.Barut@dot.wi.gov
Boyle, Zachary	Utah DOT	zboyle@utah.gov
Cooley, Paul	CalTrans	paul.cooley@dot.ca.gov
Cram, Ryan	Kentucky Transp. Cabinet	Ryan.cram@ky.gov
Emery, Ron	Maine DOT	Ronald.Emery@maine.gov
Evoy, Curt	Illinois DOT	Curt.Evoy@illinois.gov
Fish, Patty	Idaho DOT	Patty.Fish@itd.idaho.gov
Fuqua, David	Kentucky Transp. Cabinet	David.fugua@ky.gov
Laughlin, Christopher	Florida DOT	Christopher.Laughlin@dot.state.fl.us
Lewis, Edward	Kansas DOT	edwardl@ksdot.org
Nazareth, Craig	Rhode Island DOT	craig.nazareth@dot.ri.gov
Nelson, Mike	Florida DOT	Mike.Nelson@dot.state.fl.us
O'Donnell, Larry	FHWA	Larry.O'Donnell@dot.gov
Pino, Ken	New Mexico DOT	Ken.Pino@state.nm.us
Powelson, David	New Hampshire DOT	dpowelson@dot.state.nh.us
Soden, Derek	FHWA	Derek.soden@dot.gov
Papakroni, Vasil	Bentley Systems, Inc.	<a href="mailto:Vasil.Papakroni@Bentley.com">Vasil.Papakroni@Bentley.com</a>
McBride, McKenzie	Bentley Systems, Inc.	<a href="mailto:McKenzie.Mcbride@bentley.com">McKenzie.Mcbride@bentley.com</a>
Aldayuz, Jose	Michael Baker International	<a href="mailto:JAldayuz@mbakerintl.com">JAldayuz@mbakerintl.com</a>
Johnson, Joshua	Michael Baker International	<a href="mailto:Joshua.Johnson@mbakerintl.com">Joshua.Johnson@mbakerintl.com</a>

**BrM Deterioration Modeling TRT**

Aldemir-Bektas, Basak	Iowa DOT (Iowa State University)	<a href="mailto:basak@iastate.edu">basak@iastate.edu</a>
Johnson, Mike	Oklahoma DOT	<a href="mailto:mjohnson2@odot.org">mjohnson2@odot.org</a>
Kerr, Richard	Florida DOT	<a href="mailto:richard.kerr@dot.state.fl.us">richard.kerr@dot.state.fl.us</a>
McDaniel, Travis	Wisconsin DOT	<a href="mailto:Travis.McDaniel@dot.wi.gov">Travis.McDaniel@dot.wi.gov</a>
Nallapaneni, Prasad	Virginia DOT	<a href="mailto:prasad.nallapaneni@vdot.virginia.gov">prasad.nallapaneni@vdot.virginia.gov</a>
Yarbrough, Tom	Texas DOT	<a href="mailto:tom.yarbrough@txdot.gov">tom.yarbrough@txdot.gov</a>
Zinni, Ellen	New York State DOT	<a href="mailto:Ellen.Zinni@dot.ny.gov">Ellen.Zinni@dot.ny.gov</a>

**BrM Inspection TAG (Sunset with the Release of 5.2.2)**

Christie, Eric	Alabama DOT, Chair	christiee@dot.state.al.us
Cooley, Paul	CalTrans	paul.cooley@dot.ca.gov
Fish, Patty	Idaho DOT	patty.fish@itd.idaho.gov



**Redacted**

Kerr, Richard	Florida DOT	richard.kerr@dot.state.fl.us
Lewis, Edward	Kansas DOT	edwardl@ksdot.org
Martin, Thomas	Minnesota DOT	thomas.martin@state.mn.us
Nazareth, Craig	Rhode Island DOT	craig.nazareth@dot.ri.gov
Novakovich, Bruce	Oregon DOT	Bruce.D.Novakovich@odot.state.or.us
Thompson, Todd	South Dakota DOT	Todd.Thompson@state.sd.us
<b><u>Pontis 5.2 TRT</u></b>		
Faulhaber, Mark	Kentucky Transp Cabinet, Chair	mark.faulhaber@ky.gov
Aldemir-Bektas, Basak	Iowa State University (Iowa DOT)	basak@iastate.edu
TBD	Wyoming DOT	TBD
Choate, Scott	Louisiana DOTD	Scott.Choate@LA.GOV
Christie, Eric	Alabama DOT	christiee@dot.state.al.us
Cooley, Paul	California DOT	Paul.cooley@dot.ca.gov
Curtis, Rebecca	Michigan DOT	CurtisR4@michigan.gov
Evoy, Curt	Illinois DOT	Curt.Evoy@illinois.gov
Gorley, Dan	Idaho DOT	Dan.Gorley@itd.idaho.gov
Johnson, Mike	Oklahoma DOT	mjohnson2@odot.org
Kerr, Richard	Florida DOT	richard.kerr@dot.state.fl.us
Lewis, Edward	Kansas DOT	EdwardL@ksdot.org
Martin, Thomas	Minnesota DOT	thomas.martin@state.mn.us
McDaniel, Travis	Wisconsin DOT	travis.mcdaniel@dot.wi.gov
Nallapaneni, Prasad	Virginia DOT	prasad.nallapaneni@vdot.virginia.gov
Nazareth, Craig	Rhode Island DOT	cnazareth@dot.ri.gov
Novakovich, Bruce	Oregon DOT	Bruce.D.Novakovich@odot.state.or.us
Riemer, Karen	Connecticut DOT	karen.riemer@ct.gov
Thompson, Todd	South Dakota DOT	todd.thompson@state.sd.us
Yarbrough, Tom	Texas DOT	Tom.yarbrough@txdot.gov
Zinni, Ellen	New York DOT	ezinni@dot.ny.gov
<b><u>BrM User Group (BrMUG)</u></b>		
Choate, Scott	Louisiana DOTD, President	Scott.choate@la.gov
Coley, David	South Dakota DOT, Vice President	david.coley@state.sd.us
Boyle, Zachary	Utah DOT, Secretary	zboyle@utah.gov
<b><u>BRASS Product Representative</u></b>		
Schaefer, Brenden	Wyoming DOT	Brenden.Schaefer@dot.state.wy.us