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General Information – Meeting of the Bridge Task Force

Date: Tuesday, April 4 – Wednesday, April 5, 2017

Participants:

AASHTO	Judy Tarwater	AASHTO	Project Manager
SCOJD	Bruce Johnson	Oregon DOT	SCOJD Liaison
T&AA	Wally Ballou	Kansas DOT	T&AA Liaison
BrM Task Force	Eric Christie	Alabama DOT	Vice-Chair
	Beckie Curtis	Michigan DOT	Bridge Management
	Mark Faulhaber	Kentucky TC	Bridge Management
	Bruce Novakovich	Oregon DOT	Bridge Management
	Thomas Martin	Minnesota DOT	Bridge Management
	Derek Constable	FHWA Liaison	Bridge Management
BrDR Task Force	Todd Thompson	South Dakota DOT	Bridge Design-Rating
	Josh Dietsche	Wisconsin DOT	Bridge Design-Rating
	Dean Teal	Kansas DOT	Bridge Design-Rating
	Jeff Olsen	Montana DOT	Bridge Design-Rating
BrM Contractor	Jeremy Shaffer	Bentley	Bridge Management
	Josh Lang	Bentley	Bridge Management
	Josh Johnson	Bentley	Bridge Management
	Zac Boyle	Bentley	Bridge Management

General Discussion

The meeting was convened at 8:00am.

Agenda Item 00: Review Agenda / Assign Minutes Recorder

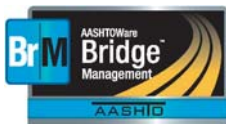
The AASHTO Project Manager and a Task Force member will take the meeting minutes. The agenda was reviewed and the following agenda items were added:

- Agenda Item 5c: NDOR Issues
- Agenda Item 5d: PONWEB-1080 issue with filters
- Agenda Item 5e: Additional Standard Fields (i.e. Emergency Vehicles)
- Agenda Item 9c: BrMUG Attendance
- Agenda Item 10b: BrM 5.2.3 AASHTO Journal Article

Agenda Item 01: Prior Business

1a. Review February Meeting Minutes (Handout MT-1a)

Minutes from the February 8 – 9, 2017 Task Force meeting held in Miami, FL were reviewed. The meeting minutes were approved as-is.



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1b. Review February Meeting Summary Minutes (Handout MT-1b)

The Summary Minutes for the February Task Force Meeting in Miami, FL were developed and reviewed by a Task Force member prior to posting for Task Force review and approval at this meeting. The Task Force approved the summary meeting minutes as-is. These will be forwarded to the BrMUG President for distribution to the BrMUG members.

Agenda Item 02: Project Update

2a. Budget and Schedule (Handout MT-2a)

Bentley presented the budget report for the FY17 MSE contract. All billings reported include invoices issued through 03/31/17. Most of the work to date under the MY17 MSE contract has been done under TM1 (Project Management and Administrative Services) – 70%, TM2 (Customer Support) – 84%, TM3 (Maintenance Services) – 66%, TM6 (Task Force Directed Tasks) – 84%, and 6.16 (Deferred Tickets) – 93%. TM6.1 – TM6.15 are complete. The overall budget spent to date is on target – 73%.

Deferred ticket details were included in an attachment to the budget report. The deferred tickets are complete from a development standpoint. Overall the 5.3 project is on track with the schedule that was included in the work plan. Beta testing is anticipated to be at the end of April. The beta testing effort will begin with a kick-off meeting. There will only be one demo site, most likely using Alabama's database. No on-site beta testing meetings are planned.

2b. Customer Support Statistics (Handout MT-2b)

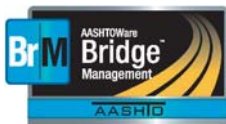
Bentley presented an overview of the customer support hours by agency for FY2017. Agencies with the highest support levels (over 50 hours) include Florida, Kentucky, Michigan, New Hampshire, North Dakota, and Utah. Alabama, California, Colorado, Delaware, Hawaii, Idaho, Kansas, Rhode Island, Tennessee, Vermont, and Virginia have each used in excess of 25 support hours.

The customer support hours are relatively high; however, this was anticipated with so many agencies implementing 5.2.3. New Hampshire still needs to test 5.2.2 R4 prior to release. Bentley will draft an email to send out to the users. California would like quicker releases for fixed bugs; however, it is cost prohibitive (from a customer support and maintenance) to have closer releases.

The Task Force noted that the Customer Support report should include only the states/organizations who currently license BrM or licensed BrM last year.

2c. Service Unit Status (Handout MT-2c)

Bentley presented the service status report as of 03/31/17. In general, a majority of the service unit projects are on track. Three (3) projects, City of Phoenix, Massachusetts, and New Hampshire have been placed on hold at the request of the agencies. The Task Force advised that the service unit status reports should include more detail than what is currently included. The AASHTO Project Manager will update the service unit project summary document to reflect the current project statuses and ancillary information currently provided in the service unit project report maintained by Bentley. Bentley will use the updated service unit project status report for project update summaries which accompany the submission of monthly service unit project invoices.



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Clayton Garcia is no longer employed by Bentley, leaving a void in the service unit project support / development team. Bentley will shift developer resources from core product development to support service unit projects. Some service unit projects are moving forward slower than desired due to Bentley staffing issues. Projects in Alabama, Kentucky and New Jersey in particular are moving slower than desired.

Manitoba DOT plans to submit a service unit project in the near future.

2d. License Revenue Report (Handout MT-2d)

The AASHTO Project Manager provided a summary of FY 17 license activity (and revenue) as of 03/17/17.

2e. Service Unit Report (Handout MT-2e)

The AASHTO Project Manager provided a summary of service unit activity as of 03/17/17.

Agenda Item 03: FHWA Update

FHWA STAFFING CHANGES:

- Elaine Chao new USDOT Secretary. FHWA Administrator not named yet.

REGULATORY AND OTHER FEDERAL ACTIONS:

- **AM Plan Rule:** Effective date still 10/02/17 (no change yet by new administration). Key dates.

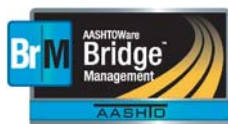
Rule Release	10/24/16
Rule Effective	10/02/17
Initial Plan Submittal	04/30/18
Final Plan Submittal	06/30/19
Penalty Application	10/01/19

- **PM2 Rule (Bridge Performance Measures):** Effective date 05/20/17 (*published rule, effective date, and key dates subject to change*). Key dates.

Effective date	02/17/17 05/20/17
NBI Data Submittal	03/15 (annually)
Minimum Condition Level Determination	prior to 10/01 (annually)
Target Establishment	One year from effective date (targets need established one year from effective date in accord with MAP-21 requirement however reporting to FHWA is by the start of federal fiscal year)
Target Reporting	10/01/18
Performance Period Target Setting & Reporting	10/01/18 and biennially thereafter
Target Adjustment Mid-Performance Period	10/01/20 (biennially)
First Performance Period	01/01/18-12/31/18

- **AM Plan and PM2 rule rollout efforts:**

- PM2 final rule webinar (AM Plan final rule webinar occurred in 2016). Date TBD.



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- AM/PM2/PM3 regional workshops:
 - 1 day AM rule and guidance / 1 day bridge & pavement AM/PM2 breakout sessions / one day PM3
 - Day One AM Plan rule and guidance (life-cycle planning, risk management, financial plan) and relation between AM and PM2
 - Day Two bridge and pavement breakout sessions [bridge sessions (1) AM Plan development, (2) BMS requirements and application, (3) performance measures and target setting]
 - Audience FHWA Divisions, State DOTs, MPOs
 - Funding for one State person and one FHWA Division person, additional own expense
 - Occurring one each month starting June (if May 20 PM2 rule effective date stands). Kansas (June 20-23), Philadelphia, Portland, Denver, Atlanta.
 - NHI 1 day PM2 course. Available several months after PM2 rule becomes final.
 - Bridge Management regional peer exchanges: Starting late summer or fall. Funding for one state person.
 - Guidance documents from FHWA Office of AM. Guidance is generally asset neutral.
- **NBI Coding Guide:** Intend to post in Federal Register. Under internal technical review. Legal review still required.

OTHER:

- International Bridge Conference. June 5-8 National Harbor, MD. AECOM (Simon Lewis) organizing workshop on “bridge asset management systems”. FHWA requested to present update on rule and TAMP implementation.
- Statements of Work in development for a FHWA funded research project Methodology for Developing Decision Rules for Bridge Preservation.

Agenda Item 04: Service Unit Enhancements

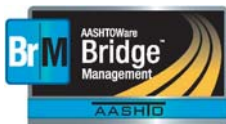
4a. Scope of Current Service Unit Projects (Handout MT-4a)

The AASHTO Project Manager presented a summary of all current state service unit projects, to include the project’s notice to proceed date, number of service units, project scope, status, and remaining budget to be spent.

The Task Force made the decision to maintain this document for Task Force information. The AASHTO Project Manager will forward the Service Unit work summary to the Task Force with all future Notice to Proceed approval requests for service unit projects. The Task Force also discussed collecting information from BrM licensing agencies on their development efforts underway that are outside the service unit process.

A question(s) will be included in the 2017 BrM End User Designee survey to ask users to provide information on user development activities that are being performed outside of the service unit project process.

The Task Force also made the decision to develop a similar document to be distributed to the user group.



Agenda Item 05: 5.3 Update

Alpha testing is underway. Beta testing will begin at the end of April. The release is scheduled for 07/20/17.

5a. Cross-Sections

The Task Force discussed looking at alternate color schemes and data displays for the user interfaces supporting cross-section features. Bentley will experiment with alternate display options for Task Force consideration. The Task Force also ‘walked-through’ the cross-section screens, making suggestions to improve the user interface to clarify the data presented. Critical pile depth data will remain in its current location but will be ‘locked down’ via a security option to protect the data in that column. Security options are accessible via Admin->Security->Permissions.

5b. Condition Grid Re-do

Bentley presented a prototype of the updated version of the Condition Grid.

- Element notes are displayed at the top of the screen (allowing the use to input notes without scrolling to the bottom).
- Users can enter partial element names in the search bar to be directed to the individual element.
- Error checks are performed without post backs (i.e. user does not have to wait for the screen to update the display).
- Error messages have been updated to make the messages more clear.
- Errors on collapsed child elements will also be highlighted on the parent element.
- When a defect is selected, the associated notes field is opened. Bentley needs to find an option to collapse the defect notes field on request. (also include a user option to select notes auto open, or not)
- The quantity for a single defect cannot exceed the total quantity for the total bridge.
- Quantities can be entered with three decimal places.
- If cracks are in both top and bottom, the defect could potentially exceed the total for the parent defect.

5c. NDOR Issues

- PONWEB-2604 – Migration database not locking screens on inspection pages other than condition – The decision was made, by the users, at the 2015 BrMUG meeting to modify the application to not lock down all data elements on the Inspection->Appraisal screen.
- PONWEB-2612 – Update script not set position correctly for agency tables. Datadict and 5.2.3 migration scripts reported 02/23/17 and assigned as a bug. Bentley is unable to determine what the issue is and how it is negatively impacting NDOR.
- PONWEB-2621 – Update script did not update report security setting
- PONWEB-2666 – Screen name not being able to be changed after creation
- Issues verbally conveyed (these will not be included in the NDOR response – no JIRA tickets on these)
 - Data Type used for GUIDs – not appropriate / causing issues
 - API and Documentation – disappointing
 - Point and Shoot Form/Page Builder
 - Database
 - Model View Controller



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5d. PONWEB-1080 Filter Issues

This ticket was initially scheduled to be fixed in 5.2.3.

- Users should have the ability to allow the Admin Role to be able to see all filters (this should also be included in 5.2.3 R4-patch)
- States have implemented rules differently on which users have the ability to develop filters.
- Unless shared, filters are visible only to the filter owner (i.e. person who created the filter).
- In 5.2.3, filters can be shared globally but not with specific groups.
- Version 5.3 will allow filters to be shared with designated groups.
- Filter ownership can be changed via edits to the filter data in the database.
- Users would also like to have the capability to copy groups.
- Users can exist in more than one group

5e. Additional Standard Fields (i.e. Emergency Vehicles)

The Task Force discussed adding new fields in 5.3 to support emergency vehicles. The decision was made to hold on the decision to incorporate new emergency vehicle standard fields until additional direction is provided by FHWA. In the meantime, states can enter emergency vehicle data via the implementation of custom fields.

Agenda Item 06: BrM TAG Activities - Updates

6a. Testing TAG

Nothing new to report at the present. The TAG will meet on the third Wednesday of each month to accommodate one of the TAG members. The TAG has been advised that the next release should be available for testing at the end of April. The Task Force will send an email to the TAG members to let them know what to expect. Testers have been advised that there will be no Pittsburgh testing session for this release version. Laptop and desktop installs will be encouraged during the testing process to vet the new non-Cassini browser. The cross section tool, which was so kindly sponsored to be added to the core-product by Alabama is expected to be included in the package to be tested. The testing schedule is expected to be tight to provide a finished product prior to BrMUG meeting.

6b. Reports TAG

During the March meeting of the Reports TAG, TAG members volunteered to re-write reports. The total list of current reports has been reviewed. Question from Beckie: does Metric need to be maintained (non-customized to be metric)? No conclusive answer was given due to the fact that NBIS still remains to be submitted with metric values.

No decision has been made on whether or not new reports developed for version 6.0 and beyond will be reverse compatible to version 5.2.2 and above.

6c. DB TAG

ERD (Entity Relationship Diagram) topics:

- The TAG Chair indicated that fidelity of the ERD should only need to be to the Logical level since there would be a significant effort by Bentley to maintain and up to date physical model.



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- Readable – the TAG suggested the ERDs be developed in such a way that they could be printed to a plotter and be readable – Bentley wanted to know what this meant. The suggestion was made from the TAG that logical ERDs be generated for each major function within the database (such as; Bridge Inventory, Bridge Inspection, Tunnel/Multimedia inventory, T/M inspection, Bridge and T/M Analysis exclusively and possibly a non-detailed module/function level model that maintains a consistent color code) It was suggested that a specific set of details, plot size, font size be provided to Bentley as a minimum.
- The TAG has expressed displeasure in their involvement and what level of influence they have on development activities involving database changes – what is the level of direction? With the example of the Cross Section tool discounted, Bentley and the Task Force has been making an effort to make the draft ERD available to the TAG, for comment, at the point of development of the draft FDS – this follows the request to the users and the db TAG for their business and workflow needs. This provides the TAG members two points of review/comment prior to the final FDS on development efforts involving db modifications and changes. Bentley and the Task Force understands the TAG involvement is dependent on time availability as well as whether or not the dev effort is task force or crowd funded.
- The DB TAG would like Bentley to add a column to the spreadsheet that was sent out. The column would contain the name of table that is now utilizing the data that was in the previous table.
- The DB TAG would like Bentley to create a spreadsheet that has a list of all the tables along with a definition of that table and its related functionality
- The DB Tag would like the layout of the ERD to be from left to right so that it could be plotted horizontally on a plotter
- The DB TAG suggested dividing up the ERD by functionality of the data. For example, the tables are currently color coded. Each one of those colors could be on a single page. So, there would be an overall ERD with the modified layout as previously discussed, with several small sections that could be viewed and printed separately.
- The DB TAG would like to add a milestone for DB design review prior to work being done on Core enhancements. The suggestion is that going forward a DB design/ERD is part of the FDS for the DB TAG to look at when reviewing the FDS. Furthermore, they suggest at least one milestone/review period for changes to the DB design that may have occurred during development. Bentley suggests that this ‘second’ review of the DB design done during Beta Testing.

After discussing these requests, it was determined that the DB TAG should develop some requirements of what they want from the BrM ERD and present those to Bentley. Bentley will take those requirements and develop a level of effort and cost for discussion with the TF to determine what will be included in the ERD. In addition, there was discussion about enhancements that are funded by individual states and crowd funded enhancements. There was consensus that these types of enhancements should be presented to the DB TAG for input so long as there is time and budget.

The Task Force is committed to continue to strive to have the DB TAG input into the development process as early as possible.

Agenda Item 07: BrM Future Versions – What to include

7a. Tunnel Enhancements (FDS) (Handout MT-7a)

In 5.2.3 adding multiple tunnel defects without saving after each add results in only the last defect being saved.

- The first draft of the tunnel enhancement was discussed.
 - Work candidates
 - Actions
 - No benefits and rest of optimization
 - Multi-media
- Multi-Asset will be in phase two – likely to have to be paid for by crowd-funding via Service Unit contributions.
- The tunnel work candidates approach was agreed upon to use the middle of the road – cost-wise – following a discussion with the Tunnel TRT about the approach for this development effort. An option to store unit cost of actions within the database will be included.
- Tunnels will have hierarchy of actions types. Similar to ADMIN>MODLEING CONFIG>ACTION DEFS page. This may be an issue as the number of action type increases within the database. This will be worked on by Bentley prior to next Task Force review of the draft FDS. The draft FDS will be sent to the Tun'nel TAG after the changes to the draft FDS are made from the Task Force meeting discussion. The Cost of Work will also be included.
- The Task Force asked the question of whether or not this should also be added to the bridge module. It was decided to bring this question up during the BrMUG meeting to see if users wish to include this in the bridge database as well.

7b. LCCA Enhancements (PONWEB 2228 & 2229)

Bentley described the high-level requirements for the LCCA enhancement. This enhancement will do a recursive analysis, at the bridge level, to optimize the work that is done at the bridge level.

Discussion - How can the LCCA be contained within the database? – It can use elements in lifecycle costs, but cannot be used for network level. Cannot use Health Index.

- LCCA does not currently optimize timing of actions. Temporal aspect is taking into consideration of a calculation of the short-term actions for a bridge whereas is there a long-term analysis for the cost based on the extended/long term view. The life-cycle plan is generated on the bridge level analysis and use that same 'plan' in the long-term analysis of the needed actions.
- One of the outcomes of this approach, would be a means to evaluate your decision rules
- Leave network as is, but on a bridge by bridge basis to preform best actions.
- NBIAS – may have a tool that does this very same type of analysis – again to be used as a decision check. Asked by Bentley if they should look into this. This was part of the suggestion in a JIRA ticket as a means to evaluate the decision rules a state may add to BrM.

7c. Tech Manual – Discuss Requirements

The User manual currently equates to 'how to run the program'.

- A user recently asked for a manual to detail “how the utility is calculated, LCCA calculated, benefits”. This sounds like an Engineering and/or IT manual.

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- le1: First iteration should be how the calculations are done (what field/values and what formulas) within the application.
- le2: Maybe some – “what if you add a field to a db table – What should be added to the BrM data dictionary”?
- le3: Program configuration.
- Number 2 right now is a priority – in light of what came in from a response from Virginia.
- Bentley – should it be stand-alone or part of the web help in the application Task Force is fine with that.
- Proposal will be submitted by Bentley.

7d. Multimedia

The users has expressed an interest in pursuing multimedia.

- The inclusion of a document sorter was discussed – something to tag a graphic to any field within the app. This could be tied to third party applications such as SharePoint or ProjectWise.
- What are the common needs? Up load graphics more than just one at a time.
- With the all of the different needs, it would be prudent to compartmentalize the needs of multimedia.
- Existing multimedia functions will be cloned in the tunnel module.

7e. Crystal Reports Licenses/InetSoft

The Task Force discussed the issue of whether or not InetSoft (or another option) should be evaluated as a replacement for Crystal Reports? Crystal Reports development requires a specialist/technical expert resource to be added to the bridge data unit in the DOTs. Maybe a data-mining tool should be considered. Ditto goes to mapping tools. No decision was made; however, if it’s decided to look at an alternative solution, the investigation should also include evaluating licensing options and costs.

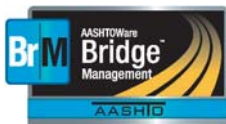
Current Crystal Reports Licenses

AASHTO currently owns 55 perpetual licenses for Crystal Reports (purchased in July 2014) . Since the licenses are owned by AASHTO (license keys provided to Bentley for distribution with BrM), AASHTO had to sign an OEM license agreement, and be accepted as an OEM Business Objects Software, Ltd.

The OEM agreement with Business Objects Software, Ltd. allow as to purchase Crystal Reports Developer software in bulk and distribute same with our software. Setting up the OEM arrangement is not a show-stopper but it did require several iterations of talks between AASHTO and the provider to get the arrangement set up. We also had to jump through some hoops to be able to secure and redistribute their software without paying them any royalties.

We have an open blanket agreement to purchase Crystal Reports single named designed licenses + an attached Run Time license. These are perpetual licenses that can be embedded with BrM with no requirement to report back to the provider on the destination of each license key and person using the license at the EUD level. (The agreements were signed by our Accountant.)

If we go with another provider we will likely have to do something similar in order for AASHTO to secure and pass the licenses on to our users. In the investigation, we should look into not bundling the reporting software with BrM to keep AASHTO out of the management of third party software licenses. Instead, users should be advised that they must separately secure reporting software XYZ to support their reporting



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needs. Bentley would need to ensure BrM could hook up to the software once both are installed in the user's environment.

Another alternative could be the Rutgers Bridge Portals. <https://fhwaapps.fhwa.dot.gov/lbtp/>

Agenda Item 08: BrM Developer License / Pooled Fund Study

The Task Force has been made aware of a pooled fund study on how to manage big bridges. The study is being conducted by Paul Thompson (funded by Wisconsin DOT, Iowa DOT, New Jersey DOT and Michigan DOT). BrM does not have a specific licensing option for research; however, the BrM Developers License, to be introduced in the FY2018 catalog, would be a good fit. Given the pooled fund nature of this research, the Task Force made the decision to make the BrM Developers License available to Paul Thompson at no charge.

Agenda Item 09: FY2018 Submission to SCOJD

The FY18 BrM Budget, MSE Work Plans and Catalog submission was finalized and presented to SCOJD during the March SCOJD/Chairs meeting in Salt Lake City, UT. The submission was approved as submitted. Judy will prepare the FY2018 contracts for the product MSE Work Plan to be forwarded to AASHTO management in early May.

Agenda Item 10: 2017 BrMUG Meeting

10a. Agenda

VDOT is working on the BrMUG agenda; however, the Task Force has not had visibility into the current status of the agenda. The AASHTO Project Manager reached out to the Virginia DOT to request they provide the Task Force with the current draft of the agenda. The agenda should include the status of the user-requested updates from the 2016 BrMUG.

10b. BrM End User Survey (Handout MT-9b and 9b1)

The Task Force reviewed the questions from the 2016 BrM End User Designee survey and the seven questions provided by NDOR for possible inclusion. The survey should go out in mid-July and responses should be received by September 1.

10c. BrMUG Attendance

The Task Force approved the following non-licensed states to attend the BrMUG meeting at AASHTO expense.

- Ohio DOT (working with their internal IT staff to acquire a BrM license)
- Maryland DOT

West Virginia

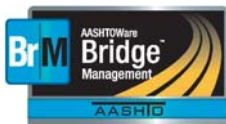
FHWA – FHWA employees will be allowed to attend the meeting without paying the registration fees.

Agenda Item 11: Marketing Activities

Marketing activities will also be discussed during the joint Task Force meeting on Wednesday.

11a. 11th International Bridge and Structure Management Conference

Bentley prepared draft presentations for the Task Force to consider for delivery during the 11th International Bridge and Structure Management Conference. The Task Force briefly reviewed the



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presentations during the meeting. The Task Force will forward any additional comments to Bentley by April 12.

The Task Force discussed the conference agenda and BrM material to be covered through the scheduled presentations. The following presentations will be given:

- Welcome to AASHTOWare BrM 5.2.3 – It’s not Pontis Anymore: An overview of the differences between BrM and Pontis
- AASHTOWare BrM 5.2.3 – Multi-Criteria Bridge Management: A high level the concept of multi-criteria decision analysis and how it is used in bridge management and how that it is used in BrM.
- AASHTOWare BrM 5.2.3 – Deterioration and Life Cycle Cost Analysis: How deterioration modeling and life cycle costs are incorporated into BrM
- AASHTOWare BrM 5.2.3 – Conducting Trade-off Analyses: How the scenario explorer in BrM can be used to do trade-off analysis
- AASHTOWare BrM 5.2.3 Workshop: Meeting Agency Policies and Objectives for Bridge Management while Addressing FHWA Requirements, Bentley Systems: A half day workshop for BrM and will hopefully include small success stories for BrM by state agencies.

11b. BrM 5.2.3 article in the AASHTO Journal

The Task Force reviewed the BrM 5.2.3 release article

Agenda Item 12: Review Action Items

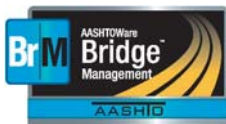
The meeting Action Items were reviewed.

Agenda Item 13: Draft Quarterly Status Report

Bentley walked the Task Force through the current version of the document. The decision was made to include a link to the BrMUG website in the next version of the Quarterly Status Report. The Task Force made the decision to include ticket numbers and brief descriptions of items referenced in future Quarterly Status Reports.

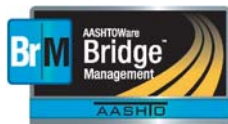
Agenda Item 14: Executive Session

The meeting adjourned at 5:00pm.



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

<u>AASHTOWare Bridge Task Force</u>		
Thompson, Todd	South Dakota DOT, Chair	todd.thompson@state.sd.us
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Ballou, Wally	T&AA Liaison, Kansas DOT	wally.ballou@ks.gov
<u>Bridge Design/Rating (BrDR) Members</u>		
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	dean.teal@ks.gov
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<u>Bridge Management (BrM) Members</u>		
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Constable, Derek	FHWA Liaison, DC	derek.constable@dot.gov
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Martin, Thomas	BrM, Minnesota DOT	Thomas.Martin@state.mn.us
Novakovich, Bruce	BrM, Oregon DOT	bruce.d.novakovich@odot.state.or.us
<u>Michael Baker Jr., Inc.</u>		
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Lee, Herman	BrDR Contractor	hlee@mbakercorp.com
<u>Bentley Systems, Inc.</u>		
Shaffer, Jeremy	BrM Contractor	Jeremy.Shaffer@bentley.com
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Johnson, Josh	BrM Contractor	Joshua.Johnson@bentley.com
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Boyle, Zac	BrM Contractor	Zac.Boyle@bentley.com
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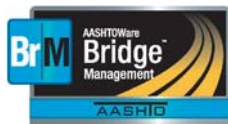


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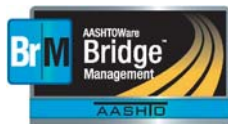
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