

AASHTOWare Bridge Management (BrM) Task Force Meeting Minutes
January 28 – 30, 2014
Destin, FL

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General Information - Meeting of the Bridge Management Task Force

Participants:

AASHTO	Judy Skeen Jan Edwards	Project Manager Program Director	Bridge
T&AA	Wally Ballou	Kansas DOT	T&AA Liaison
BrM Task Force	Mike Johnson Eric Christie Mark Faulhaber Bruce Novakovich Douglas Blades	CalTrans Alabama DOT Kentucky TC Oregon DOT FHWA Liaison	Vice-Chair
BrDR Task Force	Tim Armbrecht Jeff Olsen Dean Teal Todd Thompson Amjad Waheed	Illinois DOT Montana DOT Kansas DOT South Dakota DOT Ohio DOT	Chair Bridge Design/Rating Bridge Design/Rating Bridge Design/Rating Bridge Design/Rating
BrM Contractor	Jeremy Shaffer Josh Lang Rick Wagner Shelly Tiwary	Bentley Systems, Inc. Bentley Systems, Inc. Bentley Systems, Inc. Bentley Systems, Inc.	
Visitors	Richard Kerr Chris Laughlin	Florida DOT Florida DOT	

Notes Taker: Shelly Tiwary / Judy Skeen



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Project Update

Budget

Bentley handed out and provided an overview of the budget sheets for the FY14 MSE and the BrM 5.2.2 Project.

Customer Support Stats

Bentley handed out and provided an overview of the agency customer support hours used thus far in FY14 (i.e., since July 1, 2013). Bentley expects the customer support hours to trend upwards as they move forward with the deployment of 5.2.1.

Service Units

Bentley handed out the December 2013 service unit report.

License Revenue Report

Bentley handed out and provided an overview of the BrM license and service unit revenue report. The Excel report is generated by Bentley staff based on licensing information provided to them by Angel Williams / Linda Snowden via their BrM licensing report from AASHTOWare Manager (in pdf format). A sample of the AASHTO licensing report in Excel format report was provided to Bentley staff during the meeting. It was decided that going forward AASHTO will provide this report to Bentley in Excel format rather than as a pdf.

BrMUG Meeting

User feedback during the meeting discussions

User group concerns / priorities with Task Force status of each (detailed below) were distributed to the users via Mike Johnson's email of November 25, 2013.

User Group Concern/Priority Description	Alert Status	Priority Level	Task Force Direction
FHWA Metrics report	FHWA		Requested 23 metric logic from FHWA
FHWA translator	FHWA		Requested 23 metric logic from FHWA
#1 priority - 2013 Elements	High	1	Complete.
Inspections TAG requested to look at layout and rules (Eric Christie lead)	High	2	Underway .
Software issues resolution tracking	High	3	Underway.
Resurrect Database TAG (Todd Thompson Lead)	High	4	Complete.
Concerns about possible conflict of interest within contractor in terms of competing/complementary products, etc.	High	5	Complete. The contract executed between AASHTO and Bentley Systems, Inc. addresses the issue of intellectual property and conflict of interest.
New coding guide verification	High	6	Included in 5.2.
Database in English units ONLY	High	7	BrM 5.2.2 is expected to store data in U.S. customary units and support conversion to metric



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Clarification of developer's priority :release schedule vs. fitting in all items			Ongoing. Content versus delivery is regularly prioritized by the Task Force. Users are updated quarterly.
Crystal Reports version is fully functional with BrM/Pontis	Med		In Progress. Version compatibility and licensing are being investigated
Help file refers back to old version (help file should pertain exclusively to current version)	Med		In Progress. Working to consolidate and improve the help file and manuals into a more useful configuration. Focus on the development of the 5.2.1 user manual is a top priority. Documentation for 5.2.1 will be a living document (both online and printable). 5.2.X documentation will not include references to older versions of the software. The documentation will be delivered after the 5.2.1. release.
Update the FHWA edit checks to include the most recent changes.	Med		Complete. Updated in 5.2.1. An XML download will be provided for 5.1.3.
Maintaining historical inventory data (Gupta)	Low		No Action Taken. Would require fundamental database changes. No software action will be taken on this request.
Modeling validations	Low		A TRT group for modeling will be established to work closely with the Task Force and Bentley staff to ensure all models are validated.
Performance management/risk assessment	Low		Clarification is needed on what actions should be taken.

Update on TRT Activities

Overall TRT Activities

The Task Force reviewed the list of TRT tasks and discussed the status of each.

Task	Version	Bentley Mapping	TRT Status
Task 1A: Utility value Functions will be based on actions. Default Actions & Costs need to be defined	5.2.1	Bentley needs as soon as possible. Bentley is waiting for the datapoints. Please send database for review.	Complete
Task 1B: Procedure for developing utility curves. How to set parameters for value functions.	5.2.1	Recommendation for Task 1B has been reviewed and incorporated into 5.2.1. Keeping open until all of Task 1 has been finalized.	Complete
Task 1C: Element listing impacted by each action	5.2.1	Bentley needs as soon as possible. Bentley is waiting for the datapoints.	Pending public site to allow TRT members to enter



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			information online
Task 2: Review the use cases for network corridors	5.2.1 & 5.2.2	This is completed by the TRT. Network Corridor functionality included in 5.2.1. Improvements suggested by TRT will be incorporated into 5.2.2.	Complete
Task 3: Training and Deployment plan development	5.2.1	Not submitted to task review area on PUG forum. This should be completed for 5.2.1 release.	Pending Bentley involvement
Task 4: Reports	5.2.1	Recommendations as soon as possible. Updated reports will be present in 5.2.1 pending TF acceptance/approval.	Complete
Task 5: Element category, type, and material for NBE's. Actions, action types, categories simplification.	5.2.1	Reviewed by Bentley and deciding implementation plan. No further action from this group required.	Complete
Task 6: Deterioration Model Implementation	5.2.2	Work to start upon completion of 5.2.1 development. Bentley is looking at the Fall 2013 timeframe for this information.	In progress
Task 7: Work Accomplishments	5.2.1	Existing functionality complete in 5.2.1. Pending TRT use cases for any revisions to functionality.	Deferred, pending project tracking
Task 8: Project Tracking	5.2.2	Work to start upon completion of 5.2.1 development. Bentley is looking at the Fall 2013 timeframe for this information.	In Progress, meeting scheduled
Task 9: Project Analysis	5.2.2	Work to start upon completion of 5.2.1 development. Bentley is looking at the Fall 2013 timeframe for this information.	Lead = Task Force. Input to be taken from TRT
Task 10: Inspection Schedule Dates	5.2.2?		In Progress
Task 11: API Definition	5.2.2		Soliciting team feedback
Task 12: Default Layout and Filters	5.2.2		Soliciting team feedback
Task 13: New Sample Database	5.2.2		In Progress

Inspection Date TAG

The TAG should be referred to as the 'Inspection TAG' in lieu of the 'Inspection Date TAG'. 'Previous Date' and 'Next Date' should not be stored for each inspection. These dates should alternately be calculated 'on the fly'. One suggestion is to store the date the data is entered and the date on which the inspection was conducted. Users are having difficulty in being able to store the actual data for the NBI



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record. Changing the 'NBI box' changes the date stored for the NBI inspection. Managing the current information becomes a challenge.

The best approach may be to copy the entire previous record forward, update the elements inspected during the interim inspection, and note within the inspection record the extent of the inspection performed.

Database TAG

- **Globally Universal IDs (GUIDs)** – The DB TAG recommended proceeding with the GUIDs in 5.2.2. The API and views need to be able to handle the GUIDs.
Bentley would like to forward with the GUID approach, as long as Universal ID. Bentley is currently not aware of any issues associated with GUIDs and integration. The desire is to move away from the bridge key. The Task Force is in agreement to implement this in 5.2.2, as long as there are no other unforeseen incidents. This decision should be reviewed with all the user agencies that do not have representation on the Task Force. Some examples of this may be helpful.
- **Database Units** – the database TAG was against storing mixed units in the database; however, the users have been asking for the ability to store data in English Customary units for some time. However, the FHWA data submissions and the coding guide are still in metric units. (2016 will be the earliest version of the coding guide that could be implemented in English Units.)
- **Conversion to English Customary Units** – the database TAG recommended waiting until after the release of the English Unit coding guide.

Bentley presented the following Metric to English database conversion impacts:

- NBI Tape Export
- Sufficiency Rating Calculation
- All existing custom agency fields
- All existing agency import/export programs
- ~88 fields with BrM (do we convert non 5.2.1 tables?)
- Existing Filters/Layouts (impossible to convert)
- Metric/English conversion within software (can we abandon?)
- All datadict and paircode conversion entries (can we abandon?)
- NBI Tape Import
- All Crystal Reports
- All Element Level Data

Bentley anticipates the level of development effort to convert the units to English (and removing all of the internal conversion routines) to be approximately one month (i.e., a one month delay in the delivery of beta). Bentley also highlighted the impacts of the Metric/English conversion to the beta testing cycle, and thus a potential impact to the final acceptance release of BrM 5.2.2. The coding guide is expected to be published for rule-making in April 2014.

The Task Force made the decision to move forward with 5.2.2 database development to store data in English Customary units. BrM will continue to provide routines to convert English units to metric.

Deterioration TAG

A TAG conference call is scheduled for next Tuesday to discuss and finalize their recommendations.



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OData Reporting Tools – InfoTech Research Overview

Judy shared a PowerPoint presentation, prepared by InfoTech for the AASHTOWare Project Task Force. The presentation provided a summary of InfoTech’s research into web-based custom reporting using OData. It was decided to review the presentation in more detail during the joint Task Force meeting on Wednesday.

Status of 5.2.1 Testing

Bruce reported on Testing TAG activities. Testing TAG member conversation during the last two TAG meetings suggest that beta 4 is not ready for production. Beta 4 bug fixes will require three weeks of TAG testing. The next meeting of the TAG is scheduled for Friday, February 7. In addition, a decision on Internet Explorer version compatibility needs to be made. Beta 4 is currently certified to function with IE8 and IE9. Several users have expressed the need to have the software also be certified with IE10.

IE10 compatibility is currently scheduled to be delivered with 5.2.2. One option to consider would be to split 5.2.2 into two releases (i.e., release 5.5.2.1 would include deterioration modeling and browser compatibility; the remaining functionality slated for 5.2.2 could be provided in release 5.5.2.2). A web-based, .NET product should allow us to provide releases more easily and more frequently. The availability of user testing resources could be a limiting factor. Many issues found during beta testing are actually more functionality-related changes versus actual bugs in the software.

5.2.1 Update and Discussion from Bentley

Process Questions Posed by Bentley:

- The Health Index is based on element level weight. The software should limit the health index values to integers that are not less than one (1). The purpose of this value is to combine elements of different values.
- Given the fact that one action is allowed to have multiple benefit groups, should defects have a cost? When defects are removed, should they have a cost? If a cost is entered for both a cost and an element, the cost will be applied twice. The software should ensure that costs for the element and the defect cannot both be stored. Defects have the capability of storing the action associated with them.
- Should protective systems have a blanket cost or should the costs be associated to the parent? The protective system costs should be independent of the parent.
- It was determined that the software is functioning in these areas correctly, and no changes were required for tracking element costs on actions.

Project Analysis Use Case Discussion

The discussion on Thursday will focus on two major areas:

- 1) ‘Sorting’ Exercise - How the users sorted specific bridge management functionality into high level ‘buckets’. The results of the survey will be used to determine how consistent bridge management agencies across the country handle the specific components of their program. The ‘sorting’ actions tie very closely to the Project Analysis Use Cases
- 2) Wireframes of the Project Tracking Components

FHWA Reporting for states using SPR Funds

Bentley prepared the 2013 Q4 Status Report in mid-December. The Task Force concurred with the format and the content. Future quarterly status reports will be developed for dissemination to 5.2 project participants on or before March 31, June 30, September 30 and December 31. Bentley will



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prepare the quarterly reports and forward to the Task Force for review and approval two weeks prior to the scheduled distribution dates.

FHWA Update

Federal Highway Administration - Update On Bridge Management Issues and FHWA Initiatives (last meeting NYC Nov 7, 2013, this meeting Jan 27, 2014 Destin, FL meeting)

Transitions/Recruitments. Wade Casey retired on January 3, 2014. His duties have been divided, and Douglas Blades will represent FHWA on the AASHTOWare BrM task force. We are working to advertise his position shortly; the position will remain focused on Bridge Management. Additionally, 2 positions were advertised Nov/Dec 2013 for tunnel design positions with one focused on structural and one on mechanical design. Lastly, Lou Triandafilou is retiring on February 28th, 2014.

NBI Coding Guide. The NBICGU Team has completed the Identification, Structure Type and Material, Age and Service, Geometric Data, Navigation, and Classification section(s) of the draft Specification for the NBI (SNBI). Reviewing second round of T-18 comments on the Condition Rating section. Completed the Inspection Section. Reviewing comments from T-18 on the Loads and Load Ratings section. Working on the Appraisal section(s) along with appendices, forward, preface, introductions, acronyms and definitions. Current plan is to complete the draft SNBI by 2nd Quarter FY 2014.

AASHTO Manual for Bridge Element Inspection. Nothing new to report.

Specification for the NBI Bridge Elements. A memorandum was distributed to our Division Offices on December 16, 2013. It provided further guidance on our plan to collect element level data from bridge on the National Highway System. It issues the Specification for the NBI Bridge Elements (SNBIBE). It also includes the XML schema and an XML example data set. The schema provides the framework for how we plan to collect the data and build the NBI to be able to accept the data.

Collection of Element Level Inspection Data. As required by MAP-21, commencing on October 1st, 2014, all State and Federal agencies that have not already done so are to begin collecting element level data as each NHS bridge is field inspected. We continue to target April 2015 as the date upon which FHWA will begin to collect element level data for bridges on the NHS. This was stated in a March 12, 2013 memorandum and reiterated in the December 16, 2013. As mentioned in the previous section, the December 16, 2013 memorandum includes the SNBIBE and XML schema information to facilitate this collection.

Element data collection for non-NHS bridges. As required by MAP-21, FHWA is conducting a study on benefits, cost-effectiveness, and feasibility of requiring collection of element level data for bridges not on the National Highway System (NHS) and will submit a report on the results of the study to the House T&I and Senate E&PW Committees. The project is utilizing contractor services via TFHRC. A questionnaire regarding current ELBI practices has been issued. Results will be compiled and analyzed and a report developed summarizing the benefits, cost-effectiveness, and feasibility of requiring element level data for non-NHS highway bridges. John Hooks has the lead and George Hearn is the SME. Study completion date is June 2014. Larry O'Donnell and Derek Soden are supporting Tom Everett on this study.

Bridge Management Questionnaire: The results of the bridge management questionnaire were distributed on Nov. 26th.



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Bridge Management Technical Assistance: A total of 10 ELBI training sessions have been requested, 33 completed, 12 scheduled for a total of 55 sessions. For the ones completed there have been 1,352 participants.

National Bridge Management Business Plan and Roadmap. Nothing new to report.

NHI Bridge Management Course Series: We are developing web based training course consisting of: a) Bridge Management Fundamentals and b) Performance Based Management of Highway Bridges. The material that is developed will be reviewed by a State DOT / Federal team. States of Florida (Richard Kerr), Michigan (Becky Curtis), and North Carolina (Cary Clemmons) will participate. Derek Soden (RC), Dan Brydl (Illinois), Liz Cramer (UT) and Sheila Masters will represent FHWA on the team. A task order proposal request (TOPR) was advertised. A technical panel consisting of Derek Soden, Dan Brydl, Liz Cramer and Wade Casey reviewed and evaluated the technical merits of each proposal submitted. Panel report provided to NHI on April 22, 2013. Full Panel met with contractor on September 10, 2013 for kickoff meeting. Contractor completed kick-off meeting minutes and high level design plan. Detailed design plan was completed in early November 2013. A prototype is currently under development.

NHI Bridge Inspection Course Updates: 1. The Bridge Inspection Refresher Course updates are underway to incorporate the new manual. The Guide Manual is currently being taught in the course. A new lesson is being developed on PT grout inspection and the goal is to have all of the material incorporated this spring. 2. The 2-week course is also being updated. A task order mod is under development, a completion date has not been set for this task.

Bridge Management Case Study: Nothing new to report.

Bridge Management Minimum Requirements: Because of MAP-21 we are still working on an Asset Management Regulation that includes pavement and bridge management minimum requirements.

National Tunnel Inspection Standards: 1) Comment period ended on 30 September 2013 for SNPRM for NTIS, the draft TOMIE Manual and the draft Specifications for the National Tunnel Inventory (coding guide). 2) The SNPRM, the draft TOMIE Manual and the draft Specifications for the National Tunnel Inventory (coding guide) are still available for review on the FHWA website. 3) We received 27 distinct sets of comments from 25 distinct commenters. A final NTIS is currently projected before the end of 2014. 4) NHI is developing training for Tunnel Safety Inspection similar to their bridge inspection course which is also expected to be available before the end of 2014. 5) Feedback on the draft TOMIE Manual and the draft Specifications for the National Tunnel Inventory can be sent to Douglas Blades (douglas.blades@dot.gov). Those documents will be entering final development over the next couple months to coincide with publication of the NTIS.

National Bridge Inspection Standards: Drafting the NPRM for the NBIS. Target completion date is October 2015.

Long Term Bridge Performance Program: 1. The LTBP program has collected bridge data on 21 of 24 bridges in the Mid-Atlantic States after beginning in March 2013. Data is being collected for two clusters—a steel multi-girder bridge cluster and a prestressed concrete multi-girder bridge cluster. The Rutgers University contracting team is doing the data collection. 2. Through the Indefinite Delivery Indefinite Quantity contract for Performance Management of Bridges, Pennoni Associates, Inc. has awarded two task orders in support of the FHWA's Long-Term Bridge Performance (LTBP) Program. The



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first task order is to provide technical support to the LTBP Program, and the second contract is to develop and validate a numerical model for the data-driven LTBP Bridge Condition Index in support of the FHWA LTBP program. 3. The LTBP Bridge Performance Primer, report # FHWA-HRT-13-051, is available in printed form and on the FHWA website. Please contact Sue Lane at 202-493-3151 or Susan.Lane@dot.gov for copies of this report. 4. A workshop on the LTBP Program was held on January 16, 2014 during the 2014 TRB Annual Meeting. Information on the LTBP Protocols for data collection, state and industry timelines of changes in bridge practices, and the use of automated data collection using the RABIT™ Bridge Deck Assessment Tool were provided. The presentations from this workshop will be available on the FHWA website shortly.

NBIS Oversight Program Update: Revisions to the Metric Assessment Reports (MARs) are being incorporated into the NBI. The reports are being checked for quality assurance. Once those checks are completed and the incorporation in the NBI is confirmed, we plan to provide the reports along with supporting information the AASHTOWare BrM Task Force.

SLI BrM Risk and Vulnerability Assessment Report

The reports were distributed. After much discussion it was decided to direct Bentley to review the SLI reports and incorporate the documented recommendations, as appropriate.

API Work Update

Bentley is making progress on the API development effort. Josh provided an overview of the API functionality, including example connection strings. The BrM API interprets method and property names at runtime and maps them to your underlying data store.

Internal security development has not yet been addressed. The approach is to begin with developing a basic example of how the API will function. The example will be provided to the TRT for feedback.

Marketing Update

- **AASHTO GIS-T Conference (May 5-8, 2014) – Burlington, VT** - Jeremy advised that he plans to attend the GIS-T conference in May and has requested a slot on the agenda to present AASHTOWare Bridge Management.

5.2.2 Next Steps

The major components of the deterioration modeling activities are underway.

Many significant functionality enhancements will be included in release 5.2.2. The Task Force expressed concern that 5.2.2 may not be released by the documented target date of late calendar year 2014. The Task Force requested a drop dead date be established to ensure the Task Force is aware of the date in a timeframe that will allow them to effectively communicate the delivery date to the user community. A 'mini schedule' which includes the dates and milestones, at a minimum, was requested.

FY2015 Submissions

Catalog Overview

Draft changes to the Overview section for AASHTOWare Bridge Management were reviewed and discussed. The Task Force advised that they would like to continue to include the 'formerly Pontis' references in the FY15 AASHTOWare Catalog. Minor changes were noted and will be incorporated in the final version submitted to SCOJD for approval.



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Changes were discussed. It was decided that Judy will capture all the changes suggested and send to the Task Force and Contractor staff for final review and comment.

Catalog BrM Product

Draft changes to the AASHTOWare Bridge Management product section of the AASHTOWare Catalog were reviewed and discussed. The Task Force advised that they would like to continue to include the 'formerly Pontis' references in the FY15 AASHTOWare Catalog. Minor changes were noted and will be incorporated in the final version submitted to SCOJD for approval.

Changes were discussed. It was decided that Judy will capture all the changes suggested and sent to the Task Force and Contractor staff for final review and comment.

FY2015 MSE Work Plan

Bentley walked the Task Force through the proposed FY15 MSE Work Plan. The customer support TM task has been increased significantly over the FY14 to cover the anticipated customer support surge which is expected with the deployment of 5.2.1 and 5.2.2. The Appendix will be revised to replace 'Pontis' with the rebranded 'AASHTOWare Bridge Management' terminology. An HAO Service Unit line item will be added to the MSE budget.

FY2014 5.2 Project Amendment

Bentley will submit a contract amendment request to extend the end date for the BrM 5.2 Project from June 30, 2014 to December 31, 2014. The request document will include information to justify the need for the time extension.

Review Action Item list from meeting

Judy reviewed the action items captured during the meeting.

Activity Level Decisions

Process: Create a matrix. List the types of projects across the top. Down the row create the type of data that we need. – This will allow us to see the types of data that are required that are similar. In the end, the goal is to identify a subset of information that users could want to use to help them with their different needs in their system.

The first part of this project analysis is an avenue for users to look at different ways to view their data. One way to do this would be to have a project planning/ project analyzing desktop where different types of data is available. This approach would aid users in determining what they want to look at for specific questions/items that they would like to investigate. Two components: pulling up the data that users are concerned about, and being able to see things such as: the utility available, what the risk is, what the utility cost ratio is, what does this do to the lifecycle cost, etc.

The user would then step through to look at specific problems and determine what can be done with the problem, a secondary process where the software takes a step back and aggregates the different needs that pop up under a bridge. The user could also look at the replacement candidates. The analysis is going to have to look at how these are competing factors about the bridges. There are queries that are pre-screening. Anything with certain elements are candidates to be replacement candidates. Users can get certain points for the additional things that are done to the bridge. It is an automated way to run queries and see bridges that contain all the same problems that your bridge contains. Could also sort these different queries, look at a list of actions to be viewed individually and sort through those.



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A Task Force member provided a spreadsheet of what their district bridge engineer sends to the end users every year. This list is the starting point for determining bridge candidates. The ability to search through postings would help them to get things that could have been missed. The central office guys would also like to have access to the utility values associated with each bridge to help sort them. It will require more brain storming, but we need to go through and create this matrix and have this set of data that can clearly be defined to Bentley to show the type of data that people would like to see. This would essentially be a proposal for how the Task Force can get to the specifics.

The software should be able to replace all the manual manipulations that are currently being done. It should be able to tell the user if they redo this now then what will happen and what would happen if they waited. It should be able to show the user what is more advantageous and what is less beneficial. We need to determine what would make this intuitive and should have flexibility to allow states to adapt to these different types of data that they look like. Perhaps make the query adaptable. We need to offer some flexibility but somehow create it as a template that can be tweaked by the states to meet their needs. The manual approach would look at what the inspector captures and look at what the system recommends. The best economic decision would be to have the database go through and look at what bridges would be the best economical choices to be rehabilitated/replaced. The results could then be sent to the district level users so they can go investigate the information that was produced by the system.

Users would like to see the bridges and click a box to see for the replacement what the conditions would be, what the economic costs would be, what the bridge health would be, what the NBI ratings should be. There should be the ability to click on rehabilitation, which would have a different starting point, but there may be things that may have to occur to that bridge, maybe 10 years later. The process begins with activity level, aggregates on bridges. Users could be able to put in what the rehabilitation budget is for the year and the system could pull out the list of bridges that would be in this list and would state what the priority is to accomplish it.

The Task Force needs to focus on the entire process and what they would like to get out of the software.

- Use Cases were reviewed
- Created three different activities (paint-structural, scour mitigation, bridge replacement). The Task Force worked together to determine the criteria that they would like to see as well as what they would like to use to query.

On the BrM Desktop – The user would select something in the layout – which is how the display would look; the filter would be based on the queries. There may be too much criteria to show on one screen. Bentley needs to determine the best way to display this information on the screen. Users would like to see something similar to the analysis page. We are currently unsure of how this would look on the analysis page since there is so much information.

VISIO Chart:

Action Based relevant data will be taking care of all data despite the data that the user comes into it with. For a single bridge, the user would look at the action based; however, if the user goes straight from action based relevant – they are looking at all bridges that have one action in common – then they can do single bridge analysis from there and look at certain bridges and choose them and take that



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action on those and make a project out of that. Users can also look at the top 10 bridges that need an action performed the most, then group those projects together and create its own project from there. These items would be system recommended actions. The only time the user could see them together would be once that project has been grouped together, they would be showing up as programmed work.

The inspector recommendations could be reviewed, but they do not always have to be followed immediately. The recommendations are made under the project number and though the inspector will provide feedback, it is beneficial to look at all the actions in the project and determine what is needed. What to do when a project that was already created needs to go through this process? The user can go straight to the project list, or they can go to a bridge and look below it where it states all the projects this bridge is a part of. Therefore, they would be able to drill down into the specific bridge and evaluate it to determine the changes. Throw the project back into the sandbox and evaluate what is happening with the project. It could possibly become its own project, if the changes are substantial. Or else they can continually evaluate the project and allow for it to continue in the flow until they are satisfied.

A project can have multiple bridges, and a bridge can have multiple actions. The actions can have separate actions from those that are in the same project. If there is a change made on the project level it changes the bridges and changes the action items under the bridges. The thought it this is not a full time bridge item, it takes some time.

Summary of Progress to Date

Wireframes

Bentley has put some tabs together for the wireframes.

Card-sort Exercise

Proposed Module Boundaries, Function Points, Data Requirements

Project Tracking

Task Force and Bentley know what should be in project tracking. Analysis is usually done previous to the completion of project analysis.



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

AASHTOWare Bridge Task Force		
Armbrecht, Tim	Bridge Task Force Chair, Illinois DOT	tim.armbrecht@illinois.gov
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Bridge Design/Rating (BrDR) Members		
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Bridge Management (BrM) Members		
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