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AASHTOWare Bridge Management (BrM) Task Force Meeting Minutes
April 16 – 17, 2013
Fort Worth, TX

Contents

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Meeting of the AASHTOWare Bridge Management Task Force

Date: April 16 – 17, 2013

Participants:

<u>AASHTOWare Bridge Products Task Force</u>

AASHTO	Judy Skeen	Project Manager	
T&AA	Wally Ballou	Kansas DOT	
BrM Chair	Tim Armbrecht	Illinois DOT	
<u>BrD/R Task Force</u>	Dean Teal	Kansas DOT	
	Bryan Silvis	Virginia DOT	
	Todd Thompson	South Dakota DOT	
	Amjad Waheed	Ohio DOT	
<u>BrM Task Force</u>	Mike Johnson	CalTrans,	Vice Chair
	Mark Faulhaber	Kentucky DOT	
	Eric Christie	Alabama DOT	
	Ralph Phillips	Connecticut DOT	
	Bruce Novakovich	Oregon DOT	
	Wade Casey	FHWA Liaison	
<u>BrM Contractor</u>	Jeremy Shaffer	Bentley Systems, Inc.	
	Josh Lang	Bentley Systems, Inc.	
	Anthony Hutskow	Bentley Systems, Inc.	

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Day 1: April 16 (8:00 AM – 5:00 PM)

Introduction / Review Past Minutes / Determine Note Taker

Meeting called to order at 8:05 am. No changes made to the agenda. Minutes from the January TF meeting (San Diego, CA) were reviewed and approved. No changes were made to the minutes. We will post the approved minutes to SharePoint and redact. Executive session will determine a Task Force member who will review and approve the redacted minutes and post to the user forum for access to the User Group.

Review of Open Action Items

A review of all open action items was complete and updated.

Pontis 5.1.3 Update & Discussion

All the showstoppers have been addressed. The TAG approved 5.1.3 last week. Bentley is awaiting the Task Force's approval before releasing to the user community. Decision: The Task Force unanimously approved the release of 5.1.3 by a verbal vote. Bentley will begin putting together the release version for distribution and an archive package for AASHTO.

There was discussion about the release method Bentley will use. There will be an email sent out letting the community know it's released. A username/password to a secure download via FTP will be provided to those agencies interested, instead of blasting DVDs out to everyone. Bentley will draft a release memo, including links and contact information and send to Task Force for review. The release memo will summarize some of the big tickets items in the release. DVDs will be provided to licensees who prefer that method of delivery, but secure FTP site will be the primary delivery method.

Budget Update

Bentley provided an overview of the FY budgets and explained the situation of FY12 closing (end of March 2013). Discussion followed about the 5.2.2 budget and identified that TM4 on the 5.2.2 project will be replenished. Bentley currently does not have the capacity to complete all of the work on their plate (not budget constrained, but development constrained). Bentley has recently added two new full-time employees to the BrM development team. Bentley has pretty high standards for developers, and is still actively interviewing potential candidates to join the team. The main challenge this year (now that the solicitation is complete and funds are available) is now showing what we can do with the funding that has been committed.

FY13 MSE will expire on June 30^{th}, 2013. Approval was granted to Bentley for the requested budget changes. This will move funds around as necessary. Additionally, this approval will move the remaining amount in TM6C, Contractor's meeting, into the appropriate bucket. No concerns were raised by the Task Force about this request. AASHTO Project Manager sent the official approval email to Bentley during the meeting which authorizes the change to take effect.

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Customer Support Update

An overview of the customer support breakdown of hours was completed, which reviewed the hours since the beginning of the fiscal year. The report had details for Q3 as well.

Agency #1 – AASHTO will be sending a response to the agency, to set up a meeting with their contact. We need to try and clear the air as well as understand their needs to provide recommendations on what to do next concerning their Pontis implementation. Their Pontis designee must be present in this meeting, as we don't want someone who is purely IT, or who doesn't understand Pontis or AASHTO. A Task Force member offered to be on the call if his schedule permits. Bentley should attend as well as the AASHTO PM.

DOT #1 – Bentley mentioned the total time spent with the DOT over the last few months.

Service Unit Update

Bentley provided an overview of the service unit update report. The group held a discussion about sending a monthly service unit report to all states as one email, or if it's more appropriate to send an individual report showing only the individual State's total. We also discussed if we should we just send an update to States with active service unit projects (every other state can be annually or something similar). Discussion pushed until tomorrow's joint meeting.

Break – 15 minutes

FHWA Update on Bridge Management Issues & FHWA Initiatives

NBI Coding Guide. The NBICGU Team has completed the Age and Service section and sent the draft final to T-18. We are nearing completion on the Geometric Data Section (19 items) and Navigation Section (6 items). We should be able to complete these two sections by our next meeting. We will begin work on the Functional Description Section (9 items) also at our April 30th meeting. The next NBICG update team face to face team meeting is scheduled for April 30 – May 2, 2013 in Washington HQ office.

AASHTO Manual for Bridge Element Inspection. Met with T-18 on Friday, April 12, 2013 to discuss comments FHWA and others made to the AASHTO Manual for Bridge Element Inspection. The manual will be a ballot item at this year's AASHTO SCOBS meeting in June 2013.

Specification for the NBI Bridge Elements. We are awaiting T-18 and AASHTO SCOBS action on approving the revised AASHTO Manual for Bridge Element Inspection. So, we are nearing completion on the Bridge Elements Section that will reference this manual.

Collection of Element Level Inspection Data. Policy memorandum has been released on this topic on March 12, 2013, see: http://www.fhwa.dot.gov/map21/guidance/guideeldnhsb.cfm

Bridge Management Questionnaire: Nothing new to report.

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Bridge Management Technical Assistance: A total of 10 ELBI training sessions have been requested, 17 completed, 6 scheduled for a total of 33 sessions. For the ones completed there have been 729 participants.

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

Bridge Management System Implementation Guide: Literature search will be completed in April, 2013.
NHI Bridge Management Course Series: A task order proposal request (TOPR) was advertised and we are reviewing and evaluating the technical merits of proposals.

Bridge Management Case Study. Nothing new to report.

SHRP2-R19a Design for 100 year service life. The research was recently completed and is in transition for implementation. This project is scheduled for 2014 implementation. In early stage of forming implementation workshop, and developing implementation plan. For more information see: http://www.trb.org/StrategicHighwayResearchProgram2SHRP2/Blank2.aspx.

Bridge Management Minimum Requirements: We have to do a cost/benefit analysis for the rulemaking action i.e. costs to the states vs. benefits.

National Tunnel Inspection Standards: Nothing new to report.

National Bridge Inspection Standards: Nothing new to report.

Long Term Bridge Performance (LTBP) Program Data Collection

1. The LTBP program began long-term data collection in in March 2013 in the Mid-Atlantic States with two initial bridge type clusters—a steel multi-girder bridge cluster and a prestressed concrete multi-girder bridge cluster.

2. LTBP staff and Contractor met with State Coordinators and their colleagues in the Gulf States in February 2013.

3. LTBP staff and Contractor met with State Coordinators and their colleagues in the Northwestern and Southwestern U.S. in March 2013.

4. LTBP staff and Contractor plan to meet with State Coordinators and their colleagues in the “Music States” region of the U.S. in April, 2013.

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Marketing Update

The marketing update was explained to the new Task Force members that it's a group discussion and is a standing item for each Task Force meeting to discuss upcoming marketing opportunities and needs. Marketing questions covered during this meeting:

- Prep for material at upcoming SCOBS meeting.

- Do we want to do something for the Western Bridge Preservation meeting? Should we try to get into the other three regions as well? The western regional meeting is in California. Do we want to donate some money to help give something away?

- There was discussion on AASHTOWare Bridge SWAG items to be handed out at conferences. We will look into ordering promotional items for this purpose. In addition, remaining SWAG items from the 2012 Bridge User Group Conferences will be used as giveaways at bridge related conferences. It was decided to give away 4GB flash drives and lanyards with AASHTOWare and the bridge product names branded on the items.

Discussion and update on DOT #2 –Bentley's next step is to give them version 5.1.3, but to also go out in person to assist them. They are going to be making a decision about which way to go soon regarding whether to use Pontis or another program. Ultimately, the State is looking for 5.2.1 – 5.2.2 for their solution, but that software is still in development. Someone mentioned possibly talking with the DOT at SCOBS.

A Task Force member mentioned that it would go a long way if the Task Force can show where AASHTOWare Bridge Management is going (super imposed with FHWA's schedule). We need to work more on the timeline part. Discussion followed about how to present that information? Some sort of visual would be nice. Idea thrown around about possibly presenting as a target where the target is split into 4 quadrants…training, software, etc. Another person also mentioned we would need a linear line (timeline so agencies can see dates and how they fall).

The question was raised: do we need any more white papers (i.e. how do I get into compliance with MAP-21, or how do I get to Risk based asset management)?

DOT #3 Discussion – A DOT is looking at extending their current asset management solution into bridges. Comparing BrM to this solution in terms of bridge management doesn't compare, but they are pitching the solution as a united front for everything. This approach is appealing to the State. States may concede bridge features and uses for a combined solution.

Other general marketing items: Bentley will present at GIS-T (AASHTO IS meeting in Boise), which is the first week in May. Bentley submitted 3 abstracts to IABMIS - in Shanghai next summer and one of them will focus on BrM. Bentley has a booth at IBC and we'll be passing BrM stuff out there. Webinars – Roads & Bridges webinar that Bentley did a few months back (over 500 people watched). That gets absorbed into Bentley's marketing budget, not BrM's FY budgets. Bentley will try to do more of these webinars. Next, we discussed the article where members of our Task Force and Contractor were interviewed at the last Task Force meeting. The article was published and is 12 pages long.

Bentley mentioned a potential for Pontis in another country. A Bentley colleague will be going to this country next week and will be discussing Pontis, InspectTech, and other Bentley products with different entities. It is possible if we can get into one agency in this country, more may follow. There seems to be a large interest in asset management right now.

Rolling showcase presentation – Bentley is working on this and will send it to Baker to incorporate BrDR information (we'll discuss tomorrow in the joint meeting).

TRT Discussion / Planning Session

This agenda item was called for to discuss a few items:

1. How are we functioning as a group?
2. Ways to improve the TRT?

The group discussed the possibility of having a face to face TRT meeting at the BrM User Group meeting in September, such as the feasibility and the cost/benefit.

There had been previous talks about getting more formal to communicate how all of the pieces of the 5.2 development effort fit together (i.e., MS Project). This would allow the group to see the big picture. The TRT has been asking for this information from the beginning, (i.e. a detailed and up to date Gantt chart with timing in respect to the development and FHWA deadlines).

A Task Force member sent out an email after the last TRT meeting spelling out that Project Management was being broken into two distinct pieces. Agencies want to track their projects (either before or after). They want to evaluate the economics of a project – that is the second part which the Task Force needs to understand and be heavily involved with. The TRT may not have the same understanding/background of this second component to Project Management. Right now there is no one group, working on this 'second part' (evaluating economics) of Project Management. This is the beating heart of 5.2.2 – this absolutely has to come together to pull everything together and present in a nice way. This is going to fall back onto the Task Force for completion; therefore, we need to get started. It is up to the Task Force, TRT Chair and Bentley to ensure the group has a good understanding of what needs to be accomplished with PM tasks. We need a TRT team for the analysis portion soon.

Google Maps Presentation

Bentley provided an overview of the Google Mapping component completed in 5.2.1 thus far (still needs finishing touches). The BrM Google Maps will have Street View, zoom, the whole nine yards. It will allow 250,000 views per year. The next option up is 1.5M views /year. Bentley has added a KML file export option - output to any GIS program and to Google Maps. You are able to use the filters to drive what is returned and shown in the map. The 'Mapping' task added to the bottom of the left hand column, when selected will launch the map with the selected bridges shown. When the map loads, it automatically initiates Streetview and automatically scales the map to the correct size to accommodate the number of bridges and spacing of the returned bridges. The map has the drag and drop Streetview option (Streetview guy) as well.

The mapping component will have two different values for latitude and longitude. We are plotting the un-official values in the map. There will be a Sync button that only certain people may use which approves the un-official values to become official values which is submitted to the Feds. Discussion about this process followed. For bridges that cannot be mapped (i.e. because they have incorrect coordinates or are saved in the database as 0, 0) will show in a chart below the map. This will allow the user to click and drag the bridge point into the map, as opposed to having to find the wrong location in the map to start. The grid idea below was well received from the group.

Right now, GPS coordinates are stored in Pontis as dd.mm.ss.ss (degrees-minute-seconds all as one). Degrees are to the 10th decimal now. The filter will be much easier to use and plot bridges on a map than queries as some may have been doing. Syncing across an agency database should be very intuitive. Sync the selected bridges only is the best approach in Bentley's opinion.

Direction was given to Bentley to make the Sync option an admin function (on its own page). This will not disrupt users, and will allow synching to be locked down and controlled by a role. The title for syncing could be called 'Sync to NBI'. Bentley mentioned we will have a 'revert and return' button as well for any bridges synced unintentionally.

Other items discussed about the Google Maps component:

- Print button will be added to the page;
- The pop-up will include the bridge name, code, location, and whatever other details the TF would like (Bentley will send out a list for the TF / TRT to vote);
- We will allow a State to overload their Google license key with their own;
- There is a dashboard in which Bentley can monitor that tells them views remaining, and who is using the views. This will be helpful in identifying States that may need to purchase their own Google license;
- Monitoring the number of views and what constitutes a view.

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API Update and Discussion

The development of an API is important to provide an easy-access mechanism for users wishing to customize Pontis on their own (reducing Bentley development efforts) as well as to provide an access point for Pontis plug-ins to connect to the core product (in support of the AASHTO / Bentley agreement). Currently, agencies wishing to make changes to the software must hire someone knowledgeable in the inner-workings of the Pontis software and database. Additionally, BrM currently does not work with Internet Explorer 10.

Bentley provided an overview of the updated API work plan, which included responses to the latest Task Force questions. A lot of the work is already called out in the 5.2.2 work plan, i.e., interface updates, etc. The result of a separate consultant testing was that he could not do much with the current API. Our goal is ensure the AASHTOWare Bridge Management software is the main product. All changes made in the Core product going forward will require changes to the API (hand in hand).

<u>What's been added to the new API work plan</u>:

- A new section on API details.
- Phasing out API may be necessary (i.e., going from 4.X to 5.X)
- expanded on the bullet points from consultant's testing
- built in error checks

Bentley brought up the idea of possibly having a TRT 'like' group which could test the API – the less familiar with the product, the better.

Bentley showed the example of Java docs. They would provide something like this along with the API to serve as documentation and API examples: http://docs.oracle.com/javase/1.4.2/docs/api/ . The API needs to be developed such that the average consultant will be able to pick it up and run with it. A developer should be able to recreate these pages with ease. Expose the code to copy and reuse by copy/paste. The document will be kept up to date.

Is there anything that you can do inside of Pontis that we do not want somebody to be able to do using the API? If you're not cascading things correctly, you can mess a lot of things up.

- Adding a bridge / inspection
- Deleting a bridge / inspection

Do we have any desire to restrict adding a bridge in Pontis or deleting a bridge to Pontis via API? Pontis should reserve those actions. However, PDI and XML currently allow these changes. If they don't have Pontis, they will not have access to the API.

If you have your own external system, we could reference those as well. Allowing developers to create their own modules that require Pontis to use. API's allow different programs to talk to each other in different ways. Tunnels are a logical extension of this. API would allow a tunnel system that to be added to Pontis.

BrDR has third party review and test the API. Bentley explained that they have skin in the game as well concerning these APIs getting completed correctly and timely (training and integrating Bentley plugins into Pontis). When Bentley hires a new developer it would be nice to have the API to complete development functions. Right now, training new hires is difficult because they not only have to understand the software, but all the way through the database level – which is not easy. An API would simplify this learning curve. Bentley development staff as well as the BrM community will benefit from the development of an API. Bentley will not be creating new calls, etc. Rather, they will use the same code that other third parties will use.

No one on the Task Force expressed concern with moving forward. The question was asked if API will provide any performance improvements. Bentley cannot guarantee anything related to speed, but the API will enable some unique changes which could provide improvements. The big advantage – as we embark on 5.2 developments – the Contractor will be able to take advantage of the API and quicker returns with development.

The Task Force voted and approved the API work plan. The final API work plan will be disseminated to the Task Force members via SharePoint.

AASHTO Project Manager Report

The BrM Security Testing Work plan with SLI was finalized and approved by SCOJD on 04/12/13. The contract documents were forwarded to SLI on 04/15/13 for execution. Work will begin in May and end in June. A State DOT has agreed to forward the results of their BrM security scan to SLI.

2013 BrM User Group Meeting Update – Twelve attendees are currently registered. Reminder updates will be sent out as the meeting dates approach. The BrM survey will need to be developed and finalized prior to August 5 (date six weeks prior to the User Group Meeting) in order to get the survey out, responses received, and summary PowerPoint developed for presentation during the User Group meeting.

2014 BrM User Group Meeting Update – The dates have been set for September 16-17, 2014 at the Ramkota Best Western Hotel in Rapid City, SD.

Pontis Web Application Assessment

A DOT made a presentation of their security scan of BrM. This report provided some idea of the types of vulnerabilities that exist, what can be impacted as a result of a hack, and recommendations on how the software's security can be improved. The State tested 5.1.3 Beta 5 (32 bit / Oracle 11G / IIS7). They installed as a new system – following instructions in the help file from the beginning. They migrated 15K bridges from Pontis 4.5 database. The security scan used a commercial scanning tool as well as an open web application tool.

Before a new application can be installed it must pass the security can. Hackers can do the following with your data: data theft, data corruption, destruction, or bring your site down. The State provided details of the scan and the overall findings to the Task Force.

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Observations and Recommendations to the Task Force: Overall, it's not as bad as it could have been, but we've got a lot of work to do to make this product less vulnerable. Another security assessment was presented and is pretty similar and consistent with the other State's.

It was decided that there is no reason to hold up a release because of security. 5.1.0.3 has all of the same security holes in the software, and so does 5.1.2. There are agencies currently using both versions in production.

The Task Force has two options for implementing security into BrM at this stage:

1. Launch Bentley to start a proposal for security, get started, and then modify with SLI's findings.
2. Wait until SLI provides their security assessment report (two months), then have Bentley assess and price.

The Task Force discussed and Option 1 was determined to be the better route. The Task Force would like a price per issue (al a carte). Bentley should begin addressing the issues after approved by the Task Force. Security enhancements will be included in 5.2.1 (not earlier).

Final note about security…a third State may have started their security scan as well. This may also be a resource for Bentley and the Task Force.

5.2.1 Update and Demo of Utility Functions

Bentley started by demoing the Utility Ratings page (the admin screen that would be set up only once by an agency and adjusted rarely). They showed how to turn a utility into a 0-100 value. This could apply to anything the user selected. Right now the function allows only 1-1 relationships. Non-numeric ones are the ones we are fighting with right now. Still need to figure out how Bentley is going to handle. Discussion followed.

Next, Bentley demoed the Analysis pages and Benefit Group page. The logic and code are in place and functioning, but the UI is not great at the moment. Explained that Bentley needs a way to say, "If you take these actions … here is the benefit you will get". Setting direction on this has been delegated to a couple of the TRT groups. The TRT has already recommended a default set of actions. Benefit groups can go to multiple actions. We need to make this component simple.

A benefit group is a collection of actions which help improve the condition. It must reflect the delta from each utility (mobility, risk, etc.). Discussion about this followed.

Next, Bentley showed the reverse calculation page. It assumes that you did all of the work. This page answers the question of…I have no work candidates…what are my priorities? The inspector makes work recommendations and allows managers to validate what should be done in current time. The framework has been created in the system; however, the tables are currently empty. Bentley developers are addressing the nuances right now (i.e., how to scale non-numeric values). Once we have the TRT data has been incorporated we can test and show what the pages deliver.

From a schedule standpoint, the following is the bulk of the effort still remaining.

1. Bugs existing in 5.1.3 that the TAG prioritizes as necessary fixes
2. Google maps continued

3. Finish the remaining items for utility functions, etc.

It was pointed out that we have to be cognizant of the presentation of these results. With the 5.2.1 label, there are a lot of expectations. That may come in the form of a needs ranking (projects aren't available). System recommendations vs. inspector recommendations could be meaningful. It would be good to have a TRT group make recommendations on what these reports should look like. TRT needs right now related to multiple reports and user interface.

Remaining work to be completed: 5.2.1 development completion + developing reports that currently do not exist, + finishing up Google maps, + bugs in 5.2.1, and + security. Ideally, 5.2.1's TAG testing should be accomplished much faster than the 5.1.3 testing effort. It's important to get a more defined set of core functions delivered to our users.

As a group we need to define specifically what will be included in the 5.2.1 release – does it include security? 1A and 1B stuff, what about API? That's an open question.

Expectations for the first 5.2 release version are really high. When need to make sure this release is done well.

Executive Session (4:30 – 5:00 PM)

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Day 2: April 17th (8:00 AM – 5:00 PM)

Presentation

Another software company gave a presentation / demo of their software.

Their software focuses on strategic level planning – looking at portfolios and prioritize based on multi-faceted systems. How do you create a financial strategy and investment plans across multiple asset types? The software would complement Pontis by the following:

1. Comprehensive asset planning
2. Address changing priorities
3. Improves transparency

The product is strong with presentation, and is very similar to what we are trying to do in Phase III. The software requires Flash. It is a great starting point for agencies, to see what their priorities are and how things are being calculated. It uses the results to compare with their expectations to make changes or solidifying/justify their decisions. This software is not for printing and following on the first try. It is also great for identifying areas that are being missed, by asking why the software is calculating that way.

There was discussion if the software creates policy changes - maybe look at where items are over estimated and underestimated. The software helps isolate what organizations should argue about (i.e. if 10 out of 10 people choose risk as #1, you don't need to argue that point, but may have to argue by how much).

Thoughts on Presentation:

- We need both pieces (data and presentation).
- Stacked column look was good at understanding how/why projects were juggled.
- A DOT is doing this, but Pontis is still needed to feed in the bridge data.
- Tool for the development of the weights (Pairwise comparison). How can we incorporate Pairwise comparison into our software?
- Do we even entertain the idea of dropping phase III and hooking into what they do. Or get their expertise to get service to help us (as a subject expert) – for example Phase III design work.
- Give states a way to do comparisons and setting of their weights. Not just plugging them in.
- We are still working at the needs level, then project, then where they are at.
- We could deliver 5.2.3 early if we are able to work with them.

The underlying data feeding 'condition' is their shortcoming, but their presentation layer is something that everyone would want. You can see how total was arrived and the breakdowns.
We're operating at two levels below their lowest level of detail. If we could work out some type of arrangement to provide expertise, or even a module that we could plug into Pontis that would help to accelerate the project.

The value of today's presentation was the Task Force and Contractor got to see and feel what we are shooting for, and may help with ideas of our own. Maybe plan for an extra half day session after the next meeting, or the next user group, to go over with an expert about what we could do.

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Newsletter Topics

From our BRIDGEWare session we have 3 topics to discuss.

1. Overview of implementing risk based asset management for bridge
   - -Key components of good asset management
   - -Proposed FHWA minimum requirements for bridge management systems
   - -Timeline and Events/graphic
2. 5.1.3 release and what does it do (Bentley)
3. 5.2 Status Update (Bentley)
   - -General development
   - -Google Maps
   - -New Hosting & iPad App opportunities

New Elements

Purpose of this discussion was to come up with a potential database design for the new elements. Once the elements are approved there will be pressure to make that available in the product. Our question becomes, how does that fit into 5.2.1 or 5.2.2 (does the database behind the elements have to be retooled)? We need to have a pathway for agencies to pick up and go the new elements.

The Task Force would like to at least get the database design plotted out, so it's ready to go when the elements are approved. Redesign the database to be more efficient, or is it actually a list of different elements – some are new, some are just renamed. Handling of elements is what is requiring the database changes.

Right now we can have an element and a child…will need a more robust solution. Now we are going to have more than one flag per parent…no more one to one relationships.

We showed an earlier version of the manual and gave background information – not the one going for vote…allows you to define a lot more problems than before. All defects are optional – tie back into deterioration modeling.

Do we want to stick with the one model table, or are there advantages to have two tables? AASHTO already paid to make a recommendation. Wasn't constrained by what Pontis does, or pumping data over. There may be things worth discussing before Bentley can deliver a cost proposal to get this done and ready for the new elements.

The group held a quick break for Bentley to discuss the options amongst themselves after the initial introduction into this topic.

A PowerPoint and diagram of a recommendation was displayed. The recommendation shows the new tables, current ones, and those being removed in a E/R diagram. We discussed the options as a group.

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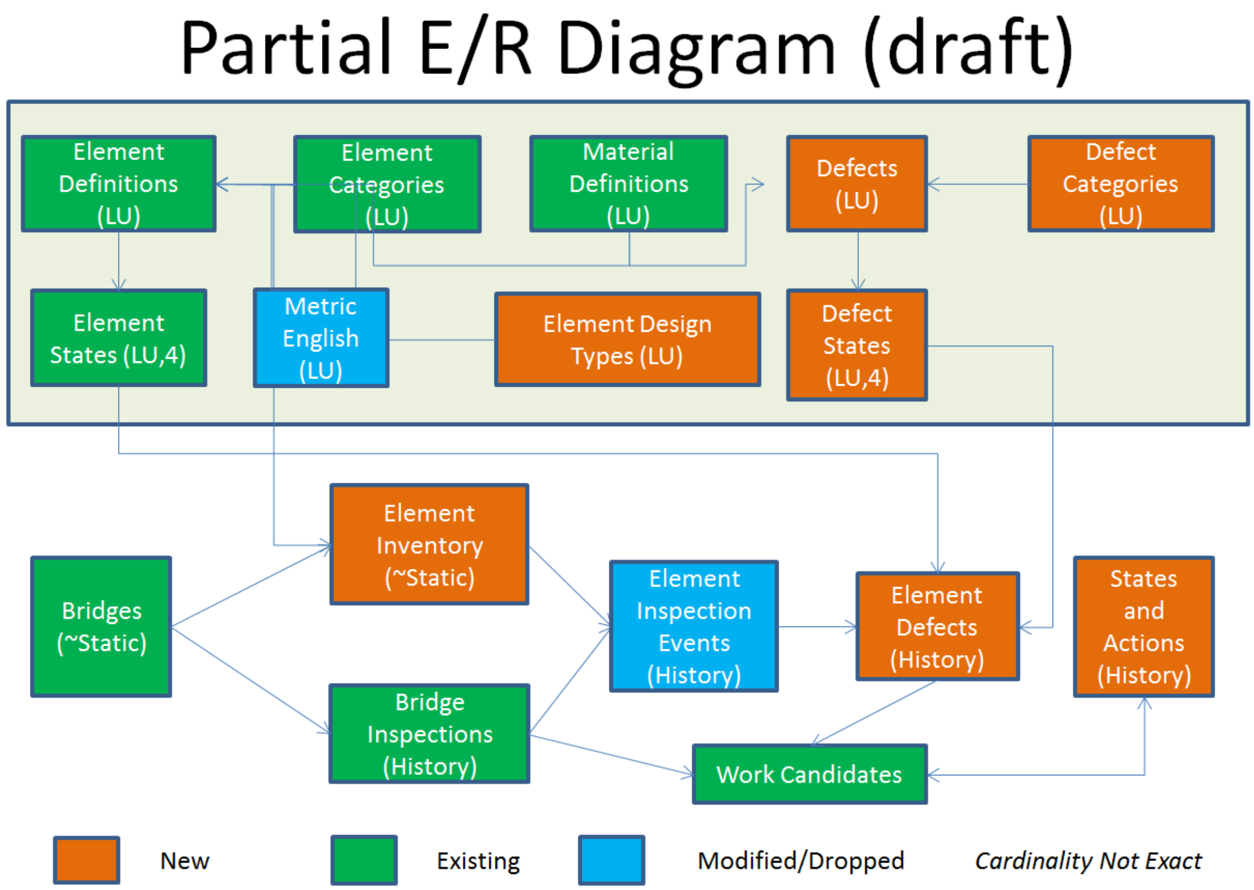
Here is the diagram:



The quickest way is to overload the existing table structure; however, long term (logical perspective and performance). Bentley believes it would be best to have two separate tables, one for elements and one for defects. This will give better flexibility to do things like putting a defect flag on a child element. That's a UI issue and database issue – having separate tables would make that easier.

Bentley is on the fence with regard to what is the most efficient way to structure, two tables or one. We are trying to look 2-3 moves down the road, because we are going to have to look at combinations, defects applying to different elements, then defects per elements. All defects are going to have different deterioration paths.

Other Topics Discussed:

- What do you do with a brand new element? Something has to be a default deterioration path if the inspector did not find anything.
- Concept of benefit groups – if you take this action, it will benefit this group of elements. All defects or these particular five defects …try to make it very easy for the users. In order to be accurate, you need to go down to that defect level, but you'll eventually have to roll it all up.

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- Does the TRT have a draft version of the new manual? No, but group members have access to the manual.

- Is there anything that you want to link to a defect, but not an element?

- How can you have two different things in the same data…logically they are different, but they have the same fields and got put into the same table.

- Units now matter. Costs have to go down to an element defect level.

- At some point we will need to have a group discussion. Bentley will think about it, and then we bring the conversation to the Task Force. This is a very important decision – kick to the TRT after we have a recommendation.

The Task Force and Bentley must keep the TRT engaged. Once the initial effort is determined, the direction will be presented to the TRT.   We need an answer flushed out down to the lowest level so we can understand the impacts. In order to accommodate the new manual – here are the changes we were thinking…are there any fatal flaws?

5.2.1 Planning and Scheduling

5.2.1 Components
-Phase 1A, 1B, and 1C planned development.

Potential Additions:

1. Google Maps
2. Key API components
3. Newly revised elements (database, migrator input, presentation, and reports)
4. TAG prioritized bug fixes
5. Security Fixes
6. TRT revisions
7. New Reports – output tool that are ready to go in the system***
8. Service Unit Core Requirements

New Reports – The TRT came back with their observation. The Task Force needs to change the questions to the following: What reports would you run if any report was included into BrM?

Bentley's main concern is how 'deep' are we going to get into some of these topics? For example, not all security fixes need to be included in 5.2.1, which if we were addressing them all it would delay the release. Google Maps is nearly complete and will be well received so that will be finished. Tackle the easy fixes/ important issues.

Ultimately we need a TRT group to work on reports – including a Network Level Risk report. Someone brought up the idea of using a SQL report tool to make it easier, but the problem with this we are still supporting Oracle.

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The best approach would be for the TRT to document reports they have customized so Bentley can incorporated into the software. There was mention of an agency which had good custom reports that came from Pontis.

We are currently in the planning phase of 5.2.2 but that is okay because we have some time to scope everything out. Bentley hopes to catch up on the work by staffing up the Bentley team for future development, etc. There was a discussion about bringing the TAG to Pittsburgh when 5.2.1 is released – this approach would allow Bentley to get feedback right away and while also eliminating installation and IT issues at the user sites. Bentley believes that could speed testing up quite a bit. In addition, two full days of testing could be accomplished right then and there all at once, instead of the TAG members having to find time on their own to dedicate to testing efforts. Another idea was to consider adding an extra day at the User Group meeting for testing 5.2.1. This would be excellent timing for such an event, because it would have just been demoed and Bentley would be available to assist with installation, and answer questions in real time.

There are three components to project management aspect of 5.2:

Part A: TRT driven (2 parts)

1. How to track a project?
2. Provide recommendation on how to make or estimate hooks for transport external project tracking systems (if applicable).

PART B: Task Force / Bentley w/ TRT input

3. How do we take utility at the needs level, bring up to project level, and determine the life cycle cost that we can start using. We need to figure that out and where it is. This is what agencies have been waiting for.

Meeting adjourned at 5:05 PM. – Executive Session followed.

Upcoming Task Force Meetings

AASHTOWare Bridge Task Force Meeting	June 11-13, 2013	Seattle, WA
AASHTOWare Bridge Task Force Meeting	November 5-7, 2013	Brooklyn, NY
AASHTOWare Bridge Task Force Meeting	January 28-30, 2014	Destin, FL
AASHTOWare Bridge Task Force Meeting	April 22-24, 2014	San Francisco, CA
AASHTOWare Bridge Task Force Meeting	June 10-12, 2014	Portland, ME

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

AASHTOWare Bridge Task Force:

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AASHTOWare Bridge TAG:

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Pontis Testing TAG

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BRASS Product Representative

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