

**AASHTOWare Bridge Design-Rating (BrDR) Task Force Summary Meeting
Minutes
January 29 – 30, 2014
Destin, FL**

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General Information – Meeting of the Bridge Design & Rating Task Force

Date: Wednesday, January 29, 2014

Participants:

AASHTO	Judy Skeen Jan Edwards	AASHTO AASHTO	Project Manager Program Director
T&AA	Wally Ballou	Kansas DOT	T&AA Liaison
BrDR Task Force	Tim Armbrecht Jeff Olsen Dean Teal Todd Thompson Amjad Waheed Tom Saad (by phone)	Illinois DOT Montana DOT Kansas DOT South Dakota DOT Ohio DOT FHWA Resource Center	Chair Bridge Design (BrD) Bridge Design (BrD) Bridge Rating (BrR) Bridge Rating (BrR) FHWA Liaison
BrDR Contractor	Jim Duray Herman Lee Jeff Campbell	Baker Baker Baker	

Tom Saad, FHWA Liaison and Bruce Johnson, SCOJD Liaison could not make the meeting. Their flights were cancelled due to poor weather conditions.

Notes Takers or Minutes Recorders: Jeff Olsen / Judy Skeen

Review Action Items

Jeff reviewed the action items and updates were provided to the Task Force.

Agenda Item 0: Review Agenda/Assign Minutes Recorder

Tim Armbrecht opened the meeting. Jeff Olsen was assigned as the minutes recorder. Tim noted that Tom Saad would give the FHWA update over the phone. The major goal of the meeting is to finalize the 6.7 work plan.

Agenda Item 1: Prior Business

1a. Review User Group Meeting Minutes
Minutes from the November 8, 2013 Task Force meeting held in Brooklyn, NY were reviewed. No additional changes were noted and Tim declared the minutes approved.

Agenda Item 2: Financial Overview and Work Plan Summary

2a. Update on Phase 17 (FY 2013)

Baker reported the remaining active tasks are all at 80% which means they are in Beta testing. They are FP2, FP3, FP9, FP11, FP13 and FP14.

2b. Update on Phase 18 (FY2014)

Baker reviewed the budget report. No discussion followed.

2c. Update on Modernization

The first modernization workshop was held last August. The next step is the Architecture Drivers



Consolidation. Baker will schedule 2 single day workshops about a week apart with Anthony Lattanze in February or March to begin design of the new architecture.

Agenda Item 3: Update on BrD/BrR Licensees (FY 2014)

3a. Product Report

Baker presented the product report, summarizing the current license breakdown. There are 4 evaluation licenses expiring in March and May. Baker sent an email to those with expired evaluation licenses and requested that they fill out the survey. The survey responses should go to Judy.

3b. Service Unit Report

The Service Unit report was provided and reviewed by the Task Force.

3c. Licensing Options

No discussion

3d. Evaluation Software Report

The evaluation spreadsheet was discussed. It was decided to add user's location (city & state) to the spreadsheet.

Agenda Item 4: Support and Maintenance Report

4a. Incident and Support Summary

Baker reviewed the Incident and Support Summary report. 18 defects were added since last quarter. There are no unresolved critical issues.

4b. Progress on Bug Resolution

Baker reviewed Maintenance Progress reports for 6.6 and 6.7 releases broken into two separate reports. They are on track to get all 6.6 maintenance items resolved by the 6.6 release. They just got started with the 6.7 maintenance items. Currently there are only four items, which may also get fixed by 6.6 release.

4c. Enhancement List Update

The Beta TAG Enhancement Buckets and BrDR Enhancement lists were reviewed. There was a minor change to the Bucket list handout. Two items from the Maintenance list will be included in the 6.5.1 release. New items had been added to the BrDR Enhancement list. Baker pointed out Incident BrDR 122. There are some vehicles in the library that are only available for LFR, but they need to be available for LRFR as well. This is a critical item that should be categorized as "missing functionality" It was decided to add this functionality in the upcoming release.

4d. Maintenance Issues

Baker reported that a state DOT has requested that we make the Virtis Standard engine available in version 6.5 too. The Contractor will send them the SQL Scripts to turn on the engine and remind them that the Task Force does not support the engine any longer. Any support requests will require the use of service units and will need to come through the Task Force. This work will only be allowed when it does not interfere with regular scheduled work.

Agenda Item 5: Update on 6.5.1 and 6.6

5a. Progress and Schedule Review

6.5.1 Update: Baker reported that 6.5.1 is in the testers hands. Baker is working to keep up with the bugs that are coming in so when the TAG give their approval, they are ready to release. It would be more efficient if they could fix the bugs that are coming in now. As they are working on the alpha phase of 6.6, so the contractor was in favor of merging 6.5.1 in to the 6.6 release. The Task Force supported it.

Mike Johnson reported that CalTrans had three major concerns. The first one is that the software does not analyze the individual webs in post tension box girders. A lot of their bridges are very wide with non-parallel skews, so the web lengths



can be significantly different, each requiring individual analysis. Vinacs understood that this item was scheduled for 6.6. However, this was stated in the mockups that it will be analyzed in the future. This functionality was not committed to 6.6 and will require an estimate and future action. CalTrans' second concern was that continuous boxes with integral bents are not supported. Most of their box girder bridges have at least two spans that are continuous over the bents with a moment connection to the substructure. If the software does not support this, it is of limited use to CalTrans. This item was a User-Group requested enhancement and a mock up comment, and it will be included in 6.6. Their third concern was the lack of graphical display for shear in both the girder system and the girder line. There was a little confusion over exactly what Vinacs was asking for, but it was thought it may possibly just be a bug. Mike will confer with Vinacs and have him report it as such.

6.6 Update:

Baker reported that they ran into some issues while working on the next phase of the curved steel girder module, specifically the influence surfacing for bottom lateral bracing and spec checking for bottom lateral bracing and diaphragms. While working on the spec checking flow charts, Krisha found that there were spec articles for each of the different cross section shapes. An email was sent to the Task Force explaining that the effort required to address this was much more significant than previously anticipated. The Task Force requested that the contractor develop estimates. The discussion of these estimates will be deferred to agenda item 6j. Baker explained that they can't include that work without pulling something else from 6.6, but what they could do is the loading of the influence surface for the lateral bracing and diaphragms.

Other tasks being worked on are the Design Tool which will be discussed in agenda item 6n, the adjacent vehicle rating which is about 20% complete, and the welded wire enhancement where mockups have been sent out for review. They should be ready for 6.6 Beta 1.

After much discussion, the following was decided:

- The 6.5.1 release will be rolled into the 6.6 release.
- The Design Tool will be pulled out of the 6.6 release and will be released later as a separate module, when it is complete. The import function will need to be included in 6.6.
- The work planned for FP3 (Curved Girder Phase 3) will be modified to remove the spec checking capabilities for the diaphragms and bottom lateral bracing of curved steel bridges. Modeling and analysis of bottom flange lateral bracing will remain in the work plan. This will require a modification to the 6.6 Work Plan Amendment.

An enhancement request for LFR analysis for post-tension boxes by one of the state agencies was discussed. After discussion, it was decided to get an estimate by the November meeting for consideration in the next work plan.

5b. TAG Update

Dean provided a list of TAG Members that is broken down into three groups. The first group is Rating, the second is Design, and the third is just those brought on board to test the post tension and multi cell box girders in version 6.5.1.

Agenda Item 6: Enhancements

6a. 3D Straight Analysis Improvements

The enhancement corrects displacements which are currently off by approximately 20%. This has not been added to the planning spreadsheet.



6b. Maintenance Bucket Estimates

None of these enhancements have been started. These have not been added to the planning spreadsheet; however, we do have a maintenance bucket placeholder in 6.7.

6c. Caltrans Rating for +/- LL Moment

Additional information from Vinacs is required in order for Baker to develop the estimate. The information gathered from Vinacs should be shared with T-18.

6d. Splice Analysis and Rating Estimate (2013-BrDR-086)

Items of higher priority are listed first in the estimate. This estimate was developed with NYSDOT and the information has been forwarded to them.

6e. Iterate RF Cost Estimate (2013-BrDR-084)

While this is better refined analysis, it is likely that T-18 will not support this as a mandated direction. This will not be voted on until the SCOBS meeting in June.

6f. Caltrans MCB Enhancements Estimate

These are mostly Caltrans 'preference' items that are likely not critical (i.e., these do not prevent them from being able to do their work).

6g. Michigan – Cut Top Strand

This is currently included in the draft 6.7 work plan. Baker worked with Michigan DOT on the development of this estimate.

6h. Michigan – Non Parallel Girders Estimate

This is currently included in the draft 6.7 work plan. Baker worked with Michigan DOT on the development of this estimate.

6i. Michigan – 1994 Guide Specs DF Estimate

This is currently included in the draft 6.7 work plan. Baker worked with Michigan DOT on the development of this estimate.

6j. FP3 Curved Girder Phase 3 Diaphragm Spec Checking

This enhancement request/estimate has not yet been reviewed by the TAG. The Task Force decided to include the preliminary work in this enhancement (i.e., the design) in the 6.7 work plan and the development work in the 6.8 work plan. Baker has already developed the mockups. The design task (to include securing feedback from the TAG) will be handled in the 6.6 work plan.

6k. PT MCB CTBridge Web Analysis Estimate
Work is already complete.

6l. Timber Estimate

This estimate was developed in 2010. Based on feedback from the users, six or seven states are interested in AASHTO moving forward with the development of a timber engine. Comments on what to include were forwarded to the Task Force. It was decided that this information will be included in an enhancement request and presented to the User Group for review and feedback. The scope would be finalized with the user input received. Consideration will be given to making this a stand-alone module that could be marketed separately, similar to the design tool.

6m. FE Engine Modernization Estimate

Baker proposes to retain much of the existing structure and convert the software in lieu of re-writing the engine. 52 test cases need to be tested. The 'modernized' engine must show a measurable improvement in the processing speed. The effort is expected to take one calendar year to complete. With the Baker tasks



associated with this enhancement, the complete project will require 18 months to complete.

The FE Engine Modernization effort will be handled under a separate work plan and contract.

6n. P/S Design Tool Enhancements

Baker distributed a summary list of the comments received. Many items in the list require additional information. The contractor may need to contact the individual respondents to clarify some of the comments. The Task Force decided to establish a Prestressed Design TAG to support this design and development effort. The 6.6 work plan will be modified to include the enhancements identified.

6o. Steel Design Tool

The estimate assumes reuse of components of the P/S Design Tool to include project setup and reporting. Baker included this enhancement in the draft work plan for 6.7. The Task Force decided to establish a Steel Design TAG to support this design and development effort. This task will be split into a design phase and an implementation phase. The design phase will be included in the 6.7 work plan and the implementation phase will be included in 6.8 work plan.

Agenda Item 7: Miscellaneous Items

7a. Modernization Update

Baker is working to put together the Baker development team architecture workshop with Anthony Lattanze in March. The developed architectural plan will be forwarded to the Task Force for review and approval.

The design phase (i.e., design of the architecture) is expected to continue through the end of August. The Task Force will need to make decisions regarding the User Interface, i.e.,

should it be completely re-designed or only slightly modified.

7b. Rating Tool Prototype (2013-BrDR-089)

Baker presented an overview of the rating tool prototype and showed the improvements made available due to multithreading. Baker will further define the requirements for developing the overload permit application and send to the Task Force for review.

7c. Hardware Suggestions

- Windows XP – The Task Force made the decision to stop support for Windows XP with the release of 6.7 (June 30, 2015). This will be stated in the FY15 AASHTOWare Catalog. This would be true for BrDR and BrM.
- “Formerly Virtis and Opis” – The Task Force has no problem with not including the former names going forward.
- Minimum Hardware requirements – the minimum hardware configuration should be 8 GB of RAM and a 250 GB hard drive. Minimum hardware configuration is not recommended for running a 3D Analysis.
- Recommended Hardware requirements – the recommended hardware configuration is 16 GB of RAM, a 1 TB hard drive, and Windows 7 - 64 bit operating system, in general, and specifically required to run 3D Analysis.

7d. FY2015 – BrDR Entries

Task force member wanted additional time to review this.

7e. Performance Parametric Study – Bridge Types (2013-BrDR-092)

Baker worked with Brenda Crudele (NYSDOT) on hardware requirements. Hardware configurations to be included in the study are summarized in the handout. Baker will prepare a summary of the items in this study and send to the Task Force for review.



Agenda Item 8: Third Party Issues

Todd will schedule a call with the third party contractors and Baker in March. Baker sent the 6.6 information to third party contractors in early January. This is an ongoing action item.

Agenda Item 9: User Group

9a. Summary Minutes from November Meeting

Baker provided the draft of the summary minutes from the Brooklyn meeting in the meeting packet. The Task Force member will review and make comments by February 14.

9b. Status of User Survey Response Follow-up

David Warner forwarded user group concerns and issues, with User Group Officer comments to the Task Force on 01/24/14. David advised that additional comments from the Task Force and contractor are needed in order to finalize the document. The task force would like clarification from the user group on how they would like the task force to proceed.

Agenda Item 10: Work Plan

10a. FY 2014 Amendments

Baker presented the 6.6 work plan amendment. During the meeting, the work plan and schedules were discussed at length. The Task force made the following changes:

- The Curved Girder III task was split into two parts (reference 6j.). The first part will be a preliminary phase and will go into the 6.6 work plan. The second part will be a development phase and will go into the 6.8 work plan.
- Of the 8 tasks in FP8, Enhancements 3,4,5,6,7,9 were included in 6.5.1 so will be moved in the planning spreadsheet to 6.5. Enhancements 1 and 10 have not been completed and will be included in 6.6.

Time extension requests for 6.6 and the FY14 MSE will be one year (from June 30, 2014 to June 30, 2015). Time extension request for 6.5 will be an extension of six months (from March 2014 to September 2014).

10b. FY2015 Work Plans

- The substructure LRFR Rating item will be moved from 6.7 to 6.8. Louisiana was interested in funding this item with service units but nothing is in place yet.
- The steel design tool: The Task Force split this item into design and implementation phases.
- Revisions to 3D Analysis of Straight girders was added to 6.7.
- The Task force decided to add the Michigan Enhancement Request – LFD DF 1994 Guide Spec for now knowing that we may pull it out after consulting with Michigan.

The 6.7 Work Plan was agreed upon by the Task Force members. It is good to go with a possible exception of the Michigan unknowns.

10c. Future Work Plans

Discussion on future work plans was deferred to the April and June meetings.

Agenda Item 11: FHWA Update

FHWA webinar for Division Bridge Engineers (DBEs) on SHV load ratings:

On January 23, 2014, FHWA hosted a webinar for DBEs to provide basic training on load rating for SHVs in support of the distribution of the FHWA memorandum dated November 15, 2013 entitled Load Rating of Specialized Hauling Vehicles. A set of draft Q&As on this topic is being finalized and will be disseminated for review to the DBEs and T-18 in the coming months. The Q&As are intended to provide clarification and further guidance on the approach FHWA will use to oversee bridge load ratings as they relate to SHVs. Please be reminded to include the evaluation of SHVs in the load rating process, as necessary, since these vehicles comply with all



Formula B requirements and are therefore considered legal to operate in every State.

FHWA Memorandum - Specifications for the National Bridge Inventory Bridge Elements:

On December 16, 2013, the FHWA disseminated a memorandum which provides continued guidance on the collection of element level data for bridges on the National Highway System (NHS) and issues the Specification for the National Bridge Inventory Bridge Elements (SNBIBE), along with the XML schema (attachment two) and example XML data set. This specification and schema provide the framework needed to support the collection and reporting of element level bridge condition data to the Federal Highway Administration (FHWA) per 23 U.S.C 144. Each State is required under 23 U.S.C. 144(d) to report element level data as each NHS bridge is inspected. Questions and answers that expand upon those provided in our earlier memoranda are also included with this memorandum.

Round 3 of SHRP2 Implementation Assistance Program Announced:

Products that will reduce utility conflicts, speed construction, help designers include geotechnical innovations earlier in the process, and improve freight planning are a few of the products being offered in Round 3 of the Implementation Assistance Program (IAP) as part of the second Strategic Highway Research Program (SHRP2). FHWA in partnership with AASHTO announced that the application process is now open and available for State departments of transportation (DOT) and local and tribal agencies. The online application forms, product details, application tips, and other information are available at the SHRP2 Web site, GoSHRP2. The deadline for submissions is February 14, 2014. Recipients will be announced on March 28. Implementation assistance is available at three participation levels: proof of concept pilot, lead adopter

incentive, and user incentive. Round 1 of the program offered assistance in the implementation of Accelerated Bridge Construction, and it is anticipated that Round 4 will offer assistance in the deployment of practices and technologies to map defects in tunnel liners, implement NDT tools to investigate concrete bridge decks, and provide solution to help to design and preserve bridges for a 100-year service life.

Every Day Counts 3 – Request for Ideas:

FHWA is currently asking for input into the next round (Round 3) of the Every Day Counts Initiatives (EDC); we are seeking your ideas. Please take a moment to consider those innovations, technologies, or initiatives that you have seen being successfully used in selected instances around the country and that you think might be beneficial on a more widespread basis. If you have an idea for further consideration, please inform your FHWA contact. The following link has instructions on how external partners can submit suggestions: [Every Day Counts Request for Information](#) We'll be taking suggestions until February 15, 2014 for Round 3. Earlier rounds of EDC advanced the use of ABC/PFBE, GRS-IBS, and innovative methods for contracting to reduce construction time.

Other:

There is no information to report on the selection of the FHWA Director of the Office of Bridge Technology or on the start-up of the OIG's announced audit on the FHWA's oversight of bridge safety.

Agenda Item 12: Five Year Projection for BrDR

Judy was absent for this discussions so it will be deferred to the conference call on Feb 7th.



Agenda Item 13: Licensing Issues

13a. International Licenses

Not discussed.

13b. Special Consultant Option Licensees

Not discussed.

Agenda Item 14: Marketing Activities

14a. Alaska Virtis/Opis Review

Dean contacted Larry Owen from Alaska DOT. Dean reviewed their comments. The general consensus was to respond to their survey comments. .

Agenda Item 15: Review Action Item list from this meeting

Jeff and Tim had to leave the meeting to attend the Montana BrM presentation. Action Items will be reviewed by email distribution.

Agenda Item 16: Task Force Executive Session (as needed)

Not needed.

The Task Force meeting adjourned sine die because Tim had to leave the meeting at 4:00 pm to attend the Montana BrM presentation.

