Newsletter

June 2016

Product New Features

Exciting new features will soon be available with the release of Bridge Management version 5.2.3 and Bridge Design and Rating version 6.8. Some of the improvements to watch for:

AASHTOWare Bridge Management™

- New User Manual
- Updated and Refreshed User Interface
- New Visual Forms Designer
- Enhanced Programming Module including: Performance Measures, Funding Allocation, Program Optimization, and Scenario Explorer
- New Project and Program Level Dashboards
- Integration of Lifecycle Cost Analysis
- NBI Component Level Deterioration
- Introduction of Preservation Policies
- Enhancements to Benefit Groups
- Ability to group together work candidates for ad-hoc comparison purposes
- Custom NBE->NBI (Element->Component) Conversion Profiles, allowing for comparison between FHWA and Agency conversion differences
- Support for Agency Defined Assets (including Tunnels)
- Miscellaneous enhancements and bug fixes

AASHTOWare Bridge Rating™

- Specification checking and rating of steel diaphragms and lateral bracing
- Load factor rating of reinforced concrete and post-tensioned multi-cell box beams
- Nonstandard gage vehicle analysis of floor system superstructures
- Additional improvements to reinforced concrete and post-tensioned multi-cell box beam rating capabilities
- Specification updates in the AASHTO LRFR engine for the MBE 2nd Edition, 2016 Interim
- A new rating tool to support permit-routing systems
- Numerous Task Force and User Group requested enhancements

AASHTOWare Bridge Design™

- Bridge Design Superstructure follows the same release schedule as Bridge Rating and shares much of the same functionality, though focused on Load and Resistance Factor Design (LRFD)
- Specification updates in the AASHTO LRFD engine for the LRFD 7th Edition 2016 Interim (now includes the 4th Edition 2008 Interim through the 7th Edition 2016 Interim)
- A new prestressed concrete design tool
- Numerous Task Force and User Group requested enhancements

See the following pages for more information and a 'sneak peak' at some of these features!

A Letter from the Chairman

Greetings from the AASHTOWare Bridge Task Force. It's hard to believe how quickly the last year has passed by. We released AASHTOWare Bridge Design/Rating 6.7.0 and 6.7.1, we released AASHTOWare Bridge Management 5.2.2, and we have initiated a major modernization project for Bridge Design/Rating. Eric Christie, Vice-Chair, has provided additional information on the Bridge Management product and I'll discuss Bridge Design/Rating in my update.

Bridge Design/Rating version 6.7 was released in July 2015 and 6.7.1 was released in March 2016. Version 6.7 included analyses of gusset-plate connections, LRFR analysis of floor systems and longitudinal trusses, LRFD Design Review and LFR and LRFR analyses of splice connections in steel girders, LRFD Design Review and LFR and LRFR analyses of prestressed concrete beams with temporary pretensioned straight top strands, and LRFD Design Review of reinforced concrete piers supporting slab system superstructures. Also included were AASHTO LRFD 7th Edition with 2015 interims and AASHTO Manual for Bridge Evaluation Specification updates (2nd Edition with 2015 interims) as well as the inclusion of many smaller enhancements. Please refer to the Release Notes for a full list of all enhancements, additions, specifications updates, and resolved bugs included with this release.

The following User Group priority enhancements were also included in Bridge Design/Rating version 6.7: Copy and paste shear reinforcement ranges, Control option to consider sloped portion of bent longitudinal reinforcement in bending and shear capacities, Option to perform 3D FEM analysis for dead load and/or live load only, Revised culvert LFD LL distribution computation, and Control option to consider development length of deck reinforcements.

Bridge Design/Rating 6.7.1 was released in March 2016 to support several bug fixes along with a few enhancements. Additional information on Bridge Design/Rating 6.7.1 can be found on the support website.

The Bridge Design/Rating modernization project has officially started. We currently have twelve (12) states participating, with nine (9) of those states contributing the full $740,000 requested in the project solicitation. There are still many states that have not responded and we are hopeful that additional states will make the decision to participate in this important project to push the project commitments closer to the project goal of 20 participating states. The Task Force made the decision that the modernization of the AASHTOWare Bridge Design/Rating system is crucial to the products' long term viability; therefore, the portion of the project budget initially targeted for product enhancements in phase three will be used to fully fund phases one and two of the project. Additional states coming on board to support the project will provide much needed funding for product enhancements in phase three. Each state that participates in the project will have at least one person eligible to be on a TAG or TRT. If all of the TAG/TRT positions are not filled by project states, we'll open it up for other states to participate.

The current plan is to deliver the first release in June 2018. This release will incorporate the modernized engine. The second release will be in June 2019 and will include an updated GUI and the remainder of the system. The third release will include additional enhancements to the product. Having more states participate in funding the project will ensure we are able to provide as many enhancements as we can in that third release.

We want to thank New York State DOT for hosting last year's RADBUG meeting in Albany, NY. Thanks to Brenda Crudele and the rest of the NYSDOT bridge folks for being such great hosts. The 2016 RADBUG meeting will be hosted by the Illinois DOT, led by Phil Litchfield. The meeting will be held at the Embassy Suites Chicago – Downtown on August 2nd and 3rd. We encourage states to participate in the user group meeting to help shape the future of the product and to learn what is new with the product since the last year's meeting. This year's meeting details can be found on the RADBUG website or by searching for 'RADBUG 2016'.

I want to thank each and every one of you who volunteers in any way to help promote and advance the AASHTOWare products. Since AASHTOWare is the "states", it only helps us all. So thanks for all you do, as we can't do it alone.

Todd Thompson, P.E.
AASHTOWare Bridge Task Force Chair

From the Vice-Chairman - AASHTOWare Bridge Management 5.2 Update

The AASHTOWare Bridge Management software continues to deliver new content and improve functionality as progress continues on the 5.2 project. In November of 2015 the 5.2.2 version was released with the following key features:

- Deterioration Modeling including Weibull shaping parameters and protection factors for protective elements
- Project Planning and Analysis Module
- Conversion of the database from Metric to U.S. Customary units
- New Inspection Process to better handle inspection dates and data for the NBI submittal
- Application Programming Interface (API)
- Database GUID conversion

A second release of Version 5.2.2 (BrM 5.2.2 Release 2) will be available soon with the following key updates:

- NBI Export updated to handle inspection dates correctly based on the New Inspection Process
- "Previous" Inspection Date migration to "Current" Inspection Date for the New Inspection Screen
- Include a corresponding entry in the USRSTRUNIT table when creating a new structure unit
- Projects Screen to display all calculated Utility benefits
- Ability to modify transition times for custom elements
- Oracle Windows Authentication

Version 5.2.3 is currently in Beta testing with a planned release in the Fall of 2016 with the following key features:

- Capability to perform life cycle cost analysis
- Capability to perform network level analysis
- Support tracking and reporting of FHWA's 23 Metrics
- Dashboards for easy data visualization and tracking performance measures.
- Enhanced User Help System

A tunnels module for AASHTOWare Bridge Management is currently under development to record and track National Tunnel Inventory (NTI) data as required by The Federal Highway Administration under the National Tunnel Inspection Standards (NTIS). 11 state agencies have agreed to participate in the funding solicitation to create the NTI plug-in, which will cover the basic requirements for collection and reporting of the NTI. The NTI plug-in will require the use of BrM 5.2.3 and is planned to be released at the same time as the 5.2.3 release, or shortly thereafter.

Should additional AASHTO member agencies make the decision to support this effort, their project contributions will go towards enhancements to improve the overall functionality of the Tunnels Module. Participating agencies will be afforded an opportunity to appoint a representative for membership on the Tunnel Technical Advisory Group (TAG). If your agency is interested in participating, please contact Judy Skeen at JSkeen@aashto.org.

The release of Version 5.2.3 will be the culmination of the 5.2 Project Solicitation. With this release, AASHTOWare Bridge Management will support the development of Asset Management Plans required by MAP-21, and is expected to satisfy the soon to be published FHWA final rule requirements for management systems. The Task Force, Technical Review Team, Testing TAG, and Bentley Systems will continue their efforts to produce the leading bridge management software as we work together towards the completion of the AASHTOWare Bridge Management 5.2 Project.

We want to thank the Utah DOT for hosting last year's Bridge Management User Group (BrMUG) meeting in Park City, UT. Thanks to Zac Boyle and the rest of the UDOT bridge folks for being such great hosts. The 2016 BrMUG meeting will be hosted by the Texas DOT, led by Tom Yarbrough. The meeting will be held at the Drury Plaza Hotel San Antonio Riverwalk on September 20 and 21, 2016. We encourage states to participate in the user group meeting to help shape the future of the product and to learn what is new with the product since the last year's meeting. Here is a link to this year's meeting details 2016 BrMUG.

Eric Christie, P.E.
Vice-Chairman AASHTOWare Bridge Task Force

Bridge Design and Rating (BrDR) Modernization Project Update

The BrDR Modernization project solicitation was forwarded to AASHTO member agencies in September 2015. The project solicitation is based on the voluntary participation of a minimum of twenty (20) member agencies to contribute $740,000 each for a total project cost of $14.8M to successfully fund the project. The $14.8M requested represented the funding needed to support the code modernization phases of the project (Phases 1 and 2 over the first three years of the project), while license fee revenue collected over the four years the modernization will be underway would be set aside to support functionality enhancements in the fourth year of the project (Phase 3).

Release Date	Release Description	Funding
Phase 1 – June 2018	Analysis Engine -- A fully modernized analysis and spec-checking engine in the existing system along with the existing engine. Users will have the ability to make comparisons between the existing engine and the modernized engine analysis results. This approach simplifies regression comparisons between the modernized engine and the existing engine.	Modernization Project Solicitation
Phase 2 – June 2019	User Interface and the remainder of the system.	Modernization Project Solicitation
Phase 3 – June 2020	Enhancements -- User-requested enhancements to be prioritized by the Task Force with the help of the RADBUG and various BrDR Technical TAGs for inclusion in the modernized system in the third release.	Product License Fees

To date, we have received formal commitments from twelve (12) agencies. Nine (9) of the twelve (12) participating agencies have committed the full $740,000 contribution requested in the project solicitation. Four (4) additional agencies have expressed an interest in the project, with verbal commitments from two (2); however, AASHTO has not yet received their official project commitment form.

The future of the AASHTOWare Bridge Design-Rating product depends on the modernization of the source code to significantly upgrade the core technology to a modern software architecture that utilizes current and future hardware and the latest software development technologies, supporting the following benefits.

- Faster analysis performance that cannot be realized in the absence of code modernization. This will allow the application to take advantage of the latest hardware and software advances, primarily parallelization by using the multi-threading capabilities of the new processors and the latest parallel task libraries (i.e. running multiple tasks simultaneously).
- Improvements to the user interface to better support novice users while maintaining modeling flexibility and robustness for advanced users.
- Improvements to the application reporting capabilities.
- Future development and maintenance costs will be reduced with the modernized product. This modernization will also facilitate improved implementation times for new features.

To continue to incorporate functionality enhancements into the current product, which is supported by an outdated architecture and code base, is not feasible. Doing so would only ensure product obsolescence in the very near future, as the execution time for the analysis of 3D models, for example, continues to be unacceptable. For these reasons, the AASHTOWare Bridge Task Force made the decision to move forward with alternate funding strategies to fully fund the BrDR Modernization Project.

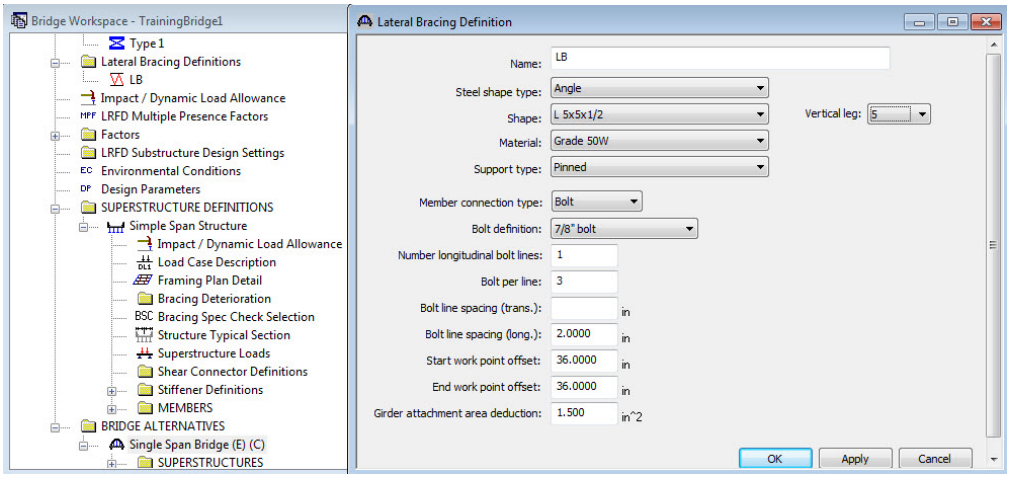
Given the current project funding short-fall, BrDR licensing fees over the four years of the project, originally planned to be banked and used to implement enhancements in Phase 3, will be used to supplement the funding short-fall for Phases 1 and 2. In addition, the Task Force has secured a funding commitment from the AASHTOWare Program Development Pool from the Special Committee on Joint Development (SCOJD) to support moving this very important project forward. This approach has allowed the project to be initiated April 1, 2016 as originally planned. While this direction will result in a reduction in the funding available to support product enhancements in Phase 3, this approach has allowed the project to move forward despite the current project solicitation funding short-fall.

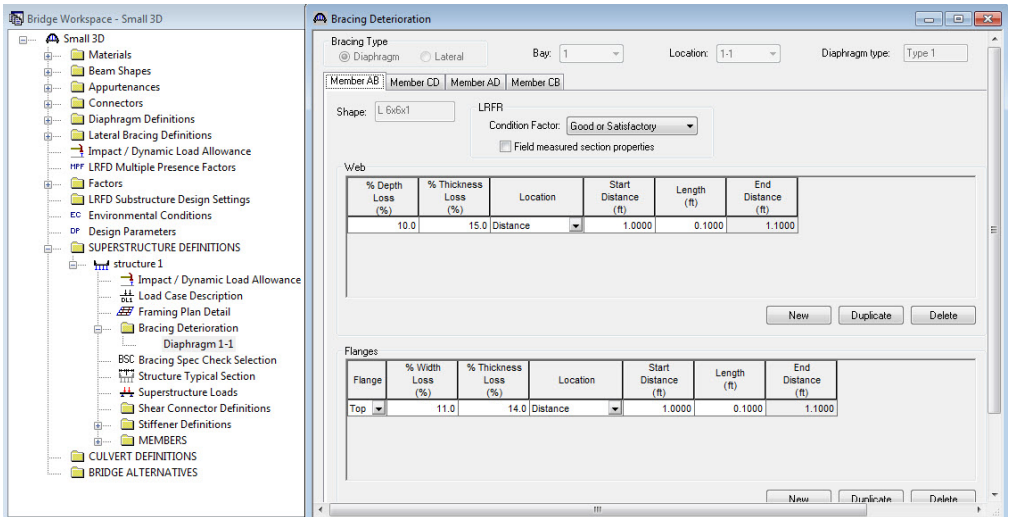
Should additional AASHTO member agencies make the decision to support this effort, their project contributions will positively impact our ability to close the gap in the project short-fall. The result would be the ability to more-fully fund phases 1 and 2 of the project, and an increase in the funding available to support product enhancements in phase 3.

If you have not already made the decision to commit to support this important project, please consider doing so. In addition to providing much needed financial support for product enhancements in phase 3, participating agencies will be afforded an opportunity to appoint a representative for membership on the Bridge Design/Rating Modernization Technical Advisory Group (TAG).

Bridge Design and Rating (BrDR) Diaphragm and Lateral Bracing Specification Checking

Release 6.8 will include the capability of specification checking of steel diaphragm and lateral bracing members in a 3D analysis of straight and curved steel girder bridges. The ability to determine actions for diaphragm and lateral bracing members in a 3D analysis is already implemented in earlier versions. The necessary connection details of diaphragm and lateral bracing members to gusset/ stiffener plate are entered in the Diaphragm Definition and Lateral Bracing Definition windows.





Once the diaphragm and lateral bracing definitions are assigned to locations in the Framing Plan window, the user can define bracing deterioration for each component of the diaphragm or lateral bracing member. Deterioration can be defined at the ends of the member or at a distance along the member.

The user will have the capability to control which diaphragms and lateral bracings are to be loaded for live load and spec checked using the Bracing Specification Check Selection window.

Diaphragm and lateral bracing members can be design-reviewed/rated for LRFD/LRFR and rated for LFR. The new "Spec-Checking Only" analysis option in the Analysis Settings window allows the user to quickly evaluate the effect of connection work point offsets on the specification checks using previously determined actions.

Bridge Rating (BrR) Load Rating Tool

This enhancement adds a new BrR process to quickly compute load ratings. To the extent possible, data required for computing a load rating will be processed and saved in advance of the request for a load rating, greatly reducing the computation time when a load rating is requested. This technique will be implemented in a new rating tool that can be used by BrR users to quickly compute load ratings based on a vehicle description and a list of bridges. This enhancement is not a permitting system and will not provide the user with a selected route or generate a list of bridges along a route. It will be able to utilize a list of bridges selected by the user and rate those bridges that are in the rating repository.

There are two parts to this enhancement:

- Part 1 involves modifications to BrR to generate and save or update the pre-computed data. When the bridge description changes, the pre-computed data must be updated by the user.
- Part 2 is the development of a new rating tool that uses the pre-computed data to calculate load ratings for specified live load vehicles.

Part 1 Precomputed Data

This task consists of modifying BrR to generate precomputed data necessary for the new rating tool. It also includes modifications to the BrR user interface to enable a user to select a group of bridges and use the new rating tool to perform the rating. The target structure types for the first release consist of prestressed and reinforced concrete and steel multi-girder superstructures. The user interface for triggering a rating analysis will be based on the "Open Route" feature in BrR.

Part 2 Rating Tool

This task consists of developing a new tool for performing load rating, which will be separate from the main BrR product. The primary requirement for the tool is that it be optimized for speed and produce the same rating results as BrDR. An xml report similar to the one currently produced by a BrR "Routing" analysis will be produced by the tool.

The user will use the existing BrR user interface to select the bridges and vehicles to be rated using the rating tool. Only bridges with descriptions in the precomputed database will be rated by the rating tool. For bridges that are not available in the precomputed database the normal BrR rating will be performed. The results will be displayed in the user interface in much the same way as the Bridge Explorer does now.

This task also includes modifications to the Analysis Application Program Interface (API) to enable 3rd-party permit/routing systems to use BrR as a rating engine. The permitting system will call the BrR Analysis API which will iterate the list of bridges. For each bridge, the API will determine if the bridge is contained in the precomputed database or not. If it is and the data is suitable for the type of rating requested, the rating tool will be used to perform the rating. If the data is not suitable, BrR will be called to perform the rating. This scenario is currently in production without the Rating Tool option in Oklahoma and Kansas.

Bridge Design / Bridge Rating Top Rating and Design User Group (RADBUG) Balloted Enhancements

Incident	Description	Product	Status
JIRA 687 (Ranked #3)	LFR analysis of reinforced concrete and post-tensioned multi-cell box beams	BrR	Completed for 6.8 release
JIRA 553 (Ranked #4)	3D FEM and 3D FEM-Vehicle C2:F5 analysis of superstructure with hinges	Both	Completed hinge modeling study for 3D girder system models

Bridge Design / Bridge Rating Top Maintenance Items

Incident	Description	Product	Status
VI 10332	Ability to specify design vehicles in the Shear Stud Design Tool and Shear Stirrup Design Tool	BrD	Completed for 6.8 release
VI 12091	Ability to process only applicable limit states based on vehicle categories for reinforced concrete box culverts	Both	Completed for 6.8 release
VI 12135	Culvert Wizard for creating culverts, culvert structure alternatives and assign culvert definitions to alternatives	Both	Completed for 6.8 release
VI 12608	Ability to specify limit states for LRFD design review of reinforced concrete box culverts	BrD	Completed for 6.8 release
JIRA 269	Remove Uniform Load Contraflexure Points dead load case from the Analysis Results window	Both	Completed for 6.8 release
JIRA 452	Ability to enforce unique name for the Bridge Workspace items in a folder	Both	Completed for 6.8 release
JIRA 499	Ability to specify LRFD 6th Edition 2013 Interim for LRFD design review and LRFR analysis of reinforced concrete box culverts	Both	Completed for 6.8 release

Bridge Design (BrD) Prestressed Concrete Design Tool

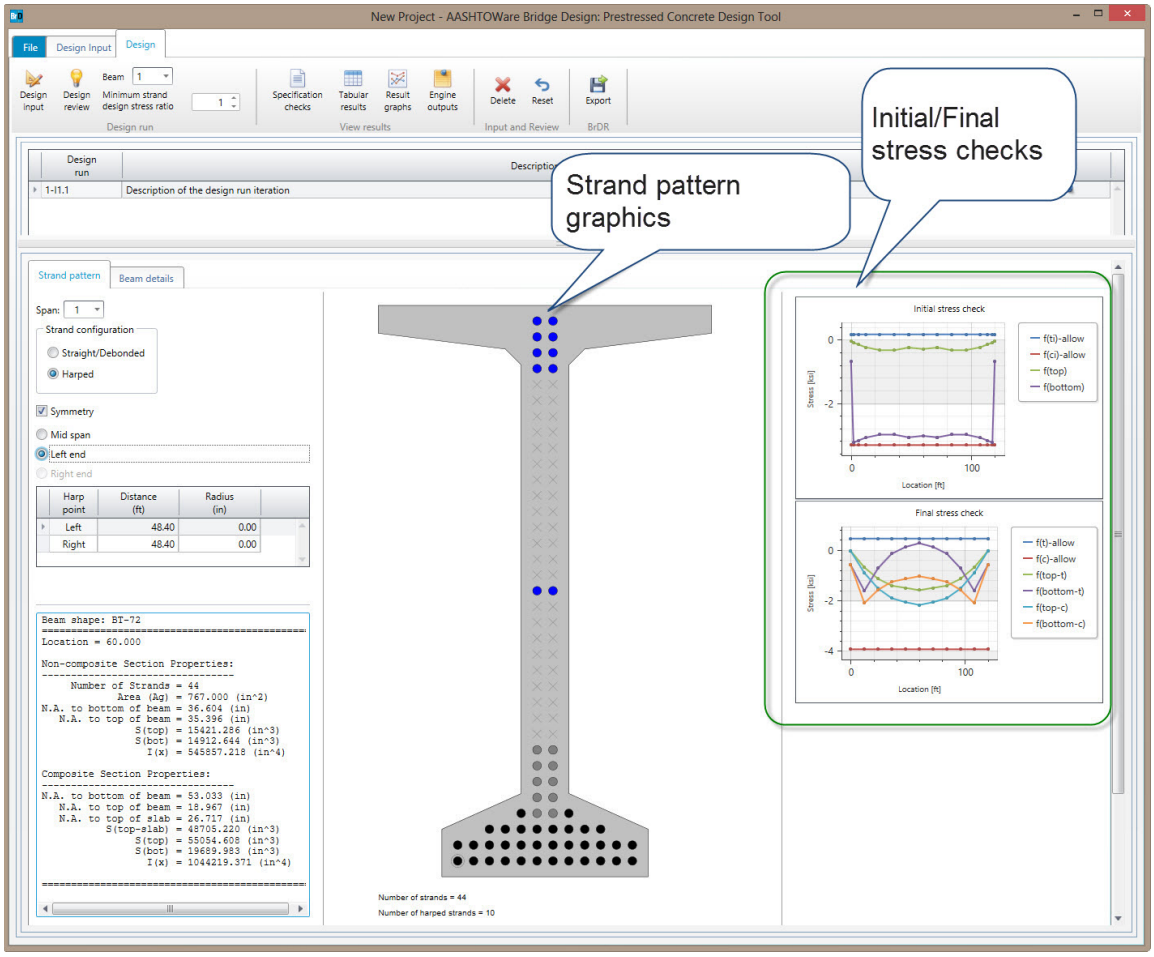
A new tool for designing prestressed concrete beams is currently being developed for the 6.8 release. The beam design will be in accordance with the LRFD specification for the following configurations:

1. P/S I beams currently supported in BrD
2. P/S box beams with rectangular voids currently supported in BrD
3. P/S tee beams currently supported in BrD
4. Debonded or harped strands
5. Simple span
6. Continuous spans
7. Shear Stirrup design spacing and ranges.

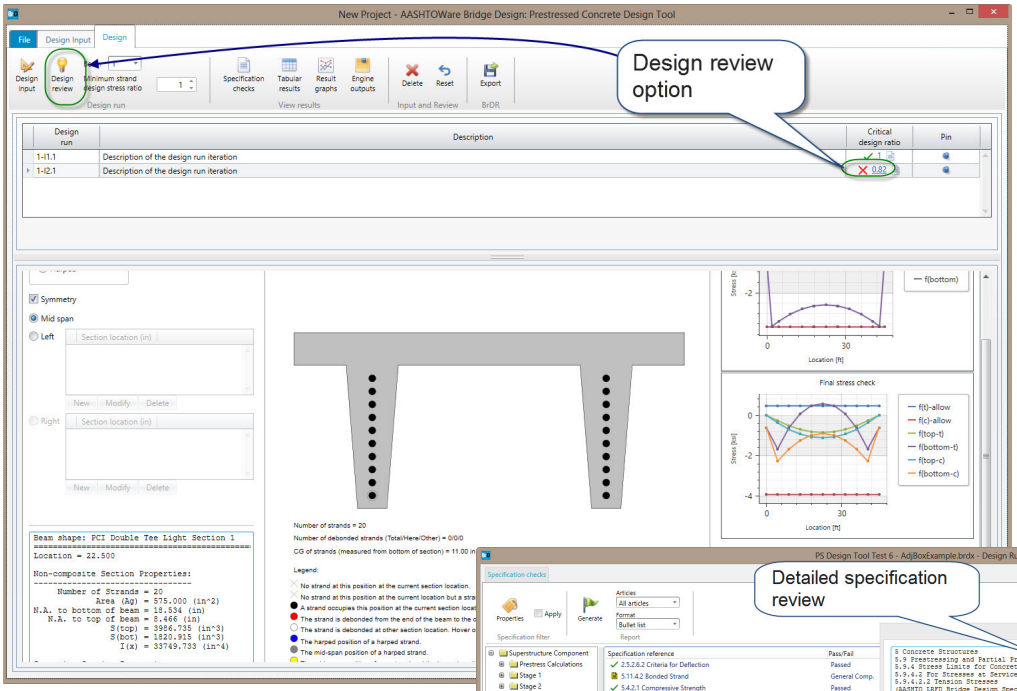
The tool will be a stand-alone utility capable of transferring the design results to BrDR.

There are two phases of development and release for the new tool. Phase 1 provides a new prestressed concrete design tool capable of performing basic design of single prestressed concrete beams. The user describes the overall bridge geometry (framing plan) that includes multiple prestressed concrete beams. This is analogous to the “System” definition in BrDR. A single beam can be selected for design. The user specifies parameters, such as a range for the beam depth, and the tool will compute live load distribution factors, dead loads, and live loads. The tool will also determine a strand pattern that satisfies the AASHTO LRFD specification for either harped strands or debonded strands as specified by the user. Beams that do not satisfy the spec are returned with the best possible strand pattern (i.e. the last pattern that was tried). The user can then tweak this pattern using the ‘Design Review’ option. This option allows the user to modify the returned strand pattern and check the specifications with the revised pattern.

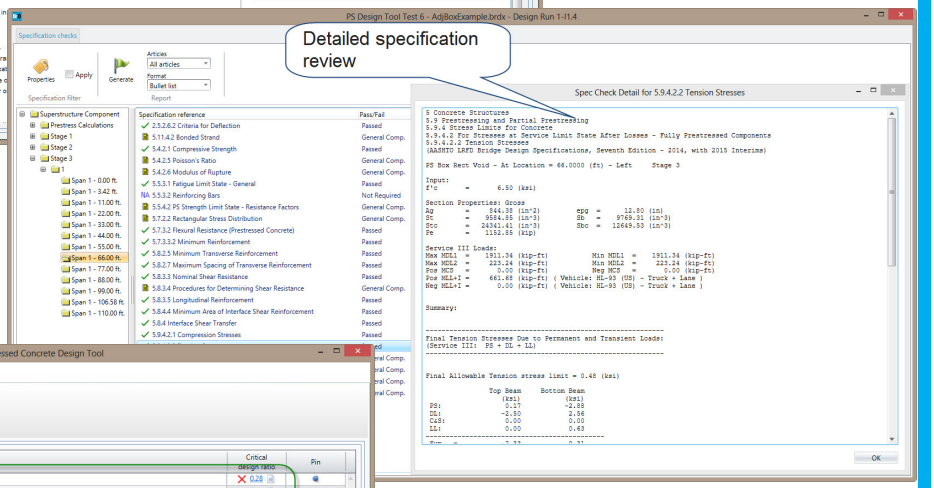
Phase 2 will expand on the Phase 1 capabilities; however, the specific features have not yet been determined.
The first release of the Prestressed Concrete Design Tool will be distributed with the 6.8 release.



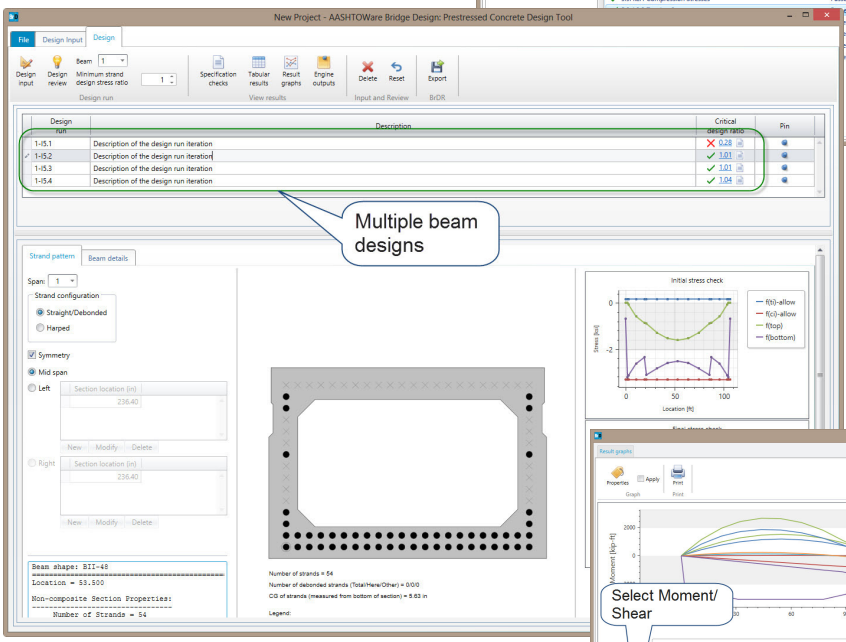
Strand patterns provided at midspan and beam end (harped) and at all debonded locations. Critical initial and final stress checks provided graphically.



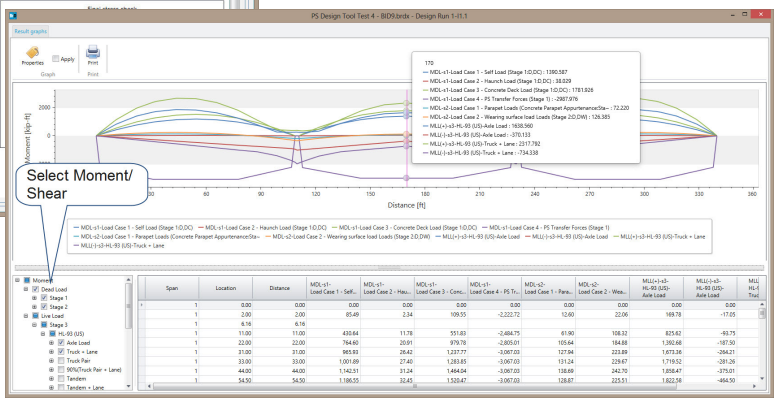
Successful and failed strand designs can be modified and reviewed using the 'Design Review' option.



Detailed specification review is available at each point of interest



When a depth range is provided, multiple beam designs are evaluated and each may be reviewed and/or modified by the user.



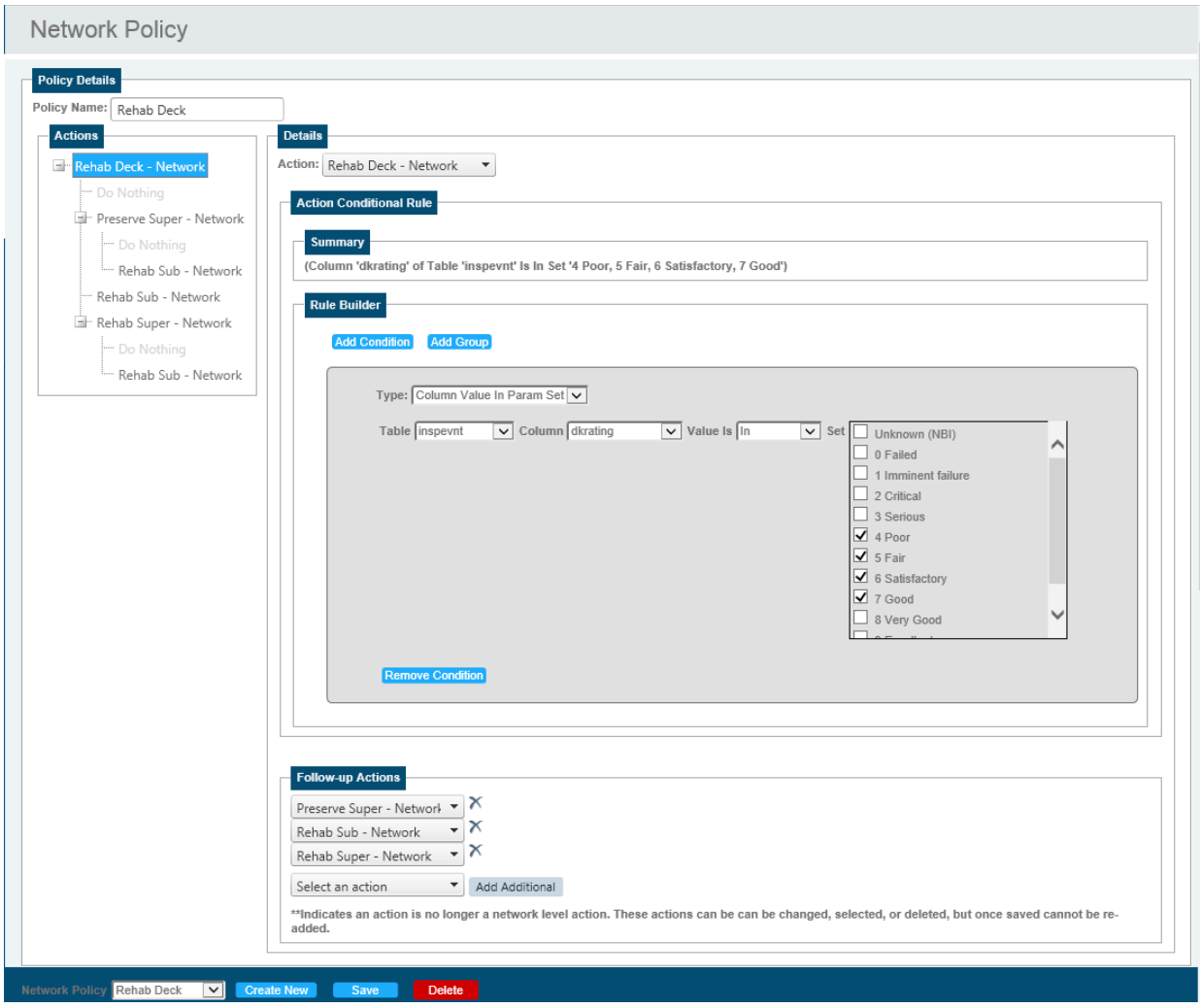
Configurable moment and shear diagrams are available for all loads.

Bridge Management (BrM) Preservation and Network Policies

As part of the life cycle cost analysis (LCCA) module, agencies will be able to create different preservation policies based on attributes of the bridge. For example, an agency can define a preservation policy for a bridge with a Concrete Deck, Black Rebar, and Steel Beams, and a separate preservation policy for a bridge with a Concrete Deck, Epoxy Coated Rebar, and Prestressed Concrete I-Beams. The preservation policy would represent an agency's rules and expectations for work that would be required including preventive maintenance, rehabilitation, and replacement.

In addition to Preservation Policies, agencies will be able to define Network Policies. Network Policies are utilized by the software to determine the combinations to be considered during the optimization. A network level analysis could encompass thousands of bridges with hundreds or thousands of possible actions over the life of the program, resulting in millions of potential combinations. By creating Network Policies, using agency practice and engineering judgement, an agency can limit the number of possible combination actions considered during the optimization, which can shorten analysis times. An example of an agency policy is as follows: A bridge deck needs rehabilitation work, typically an agency will complete work on other parts of the bridge as well to optimize the mobility costs. Network Policies provide agencies the means of defining this additional work that would be considered. Note that Network Policies should be created under the assumption that the work of additional actions do not overlap with the work of their parent action (for example a deck replacement should not be combined with deck patching)

Each Network Policy consists of an initial action with combinations of possible additional actions that would also be considered if the previous action was being considered. Each combination of actions in the Network Policy will represent an alternative project in the optimization module and the software will support a maximum of 3 action levels. During program optimization, each combination is evaluated for its utility, satisfaction of performance measures, and cost. A "Do Nothing" action is always an implied option as an additional action, meaning any point could serve as the end point.



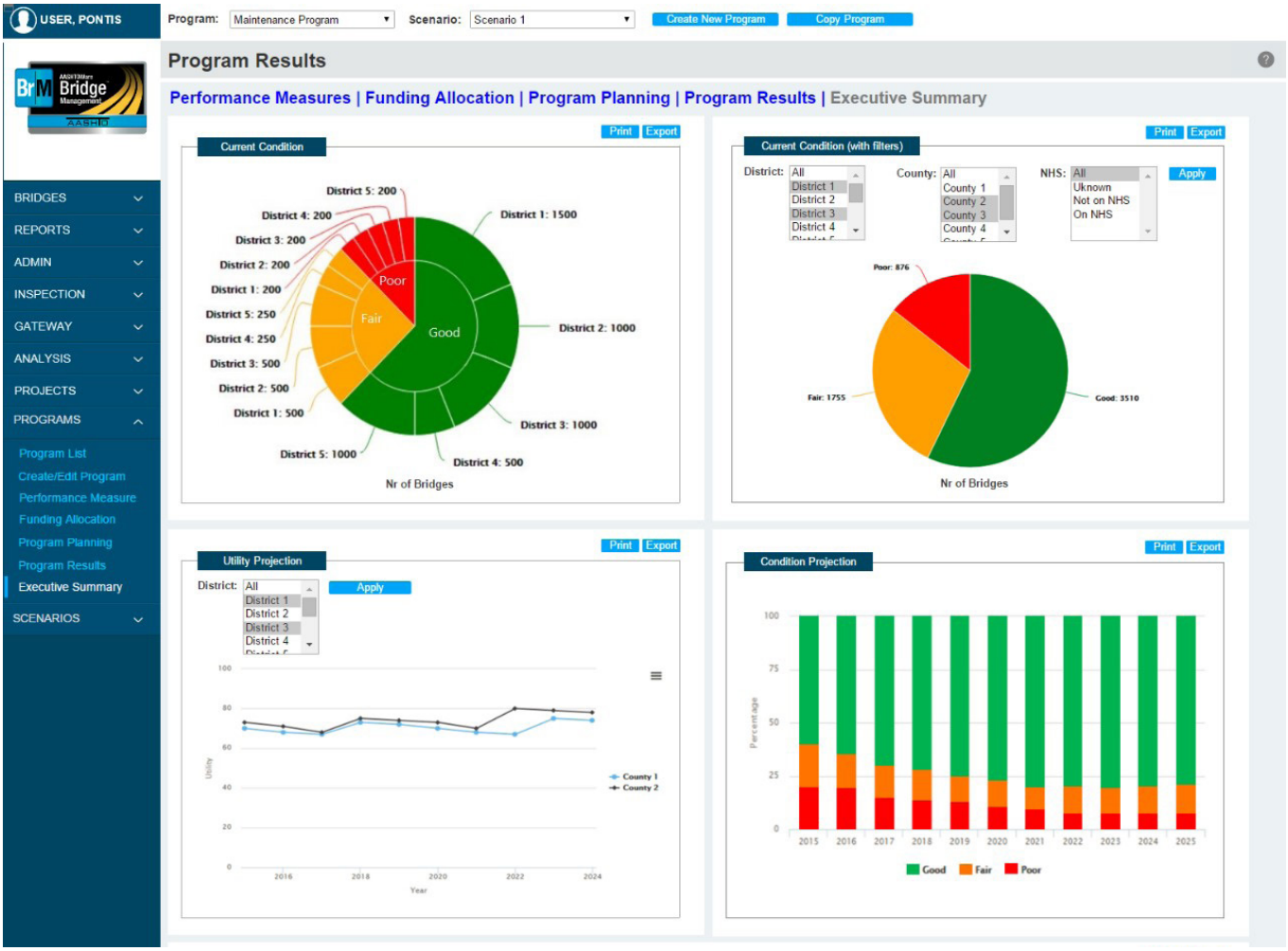
Bridge Management (BrM) Executive Summary Dashboards

Executive Summary Dashboards are designed to provide users with high-level graphical reports on the performance of the entire bridge network, bridge analysis groups or selected programs. As the name implies, the main purpose of the page is to present high-level performance summaries to executives. The page can be used by transportation agencies to justify the implementation of specific programs. The summary reports will visually demonstrate how a program makes use of allocated funds. In general, the information provided in this page will be very high-level.

Information from this page will be displayed through visual reports. The page will not show any tabular data, based on its goal of avoiding small-level details. If users are interested in the numerical details of a program's performance, they should open the "Program->Results" page, which displays information in both visual and tabular reports.

Furthermore, the "Executive Summary" report is designed to require limited user input. The reports on this page are predefined in the administrative module and will be automatically populated upon the initial page load. The amount of input required from the general user will be minimal, making the information readily accessible to new or infrequent users of the software.

For each report, users can print its graph by clicking the "Print" button in the panel. In addition, they can download the graph's numerical data by clicking the "Export" button in the panel. Users have the ability to choose in which file format the data will be exported.



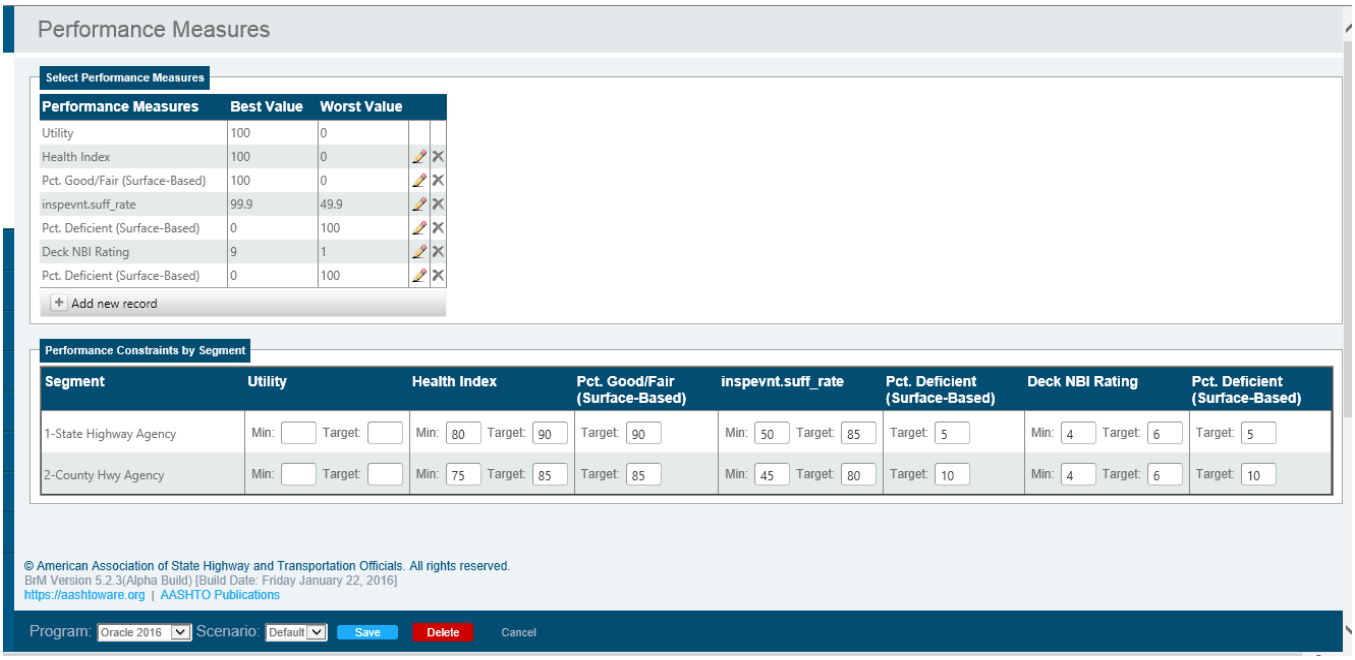
Bridge Management (BrM) Performance Measures

The Utility Value is the performance measure that is used by the program module to optimize programs. The Utility Value of a structure is a calculated value based on all of the criteria (as defined by the user) that may affect the performance of the structure. However, agencies might be interested in including additional performance measures when optimizing work for planning and programing. This page enables users to specify the performance measures that they want to use in the evaluation of a given program. In addition, users can optionally define performance constraints that need to be met by the program, such as the percentage of structurally deficient deck area.

The Performance Measures panel allows users to specify a list of performance measures that will be utilized in the optimization to develop projects and programs. Each measure specified in the table will be available in the "Programs Results" page to be reviewed.

The Performance Constraint panel gives users the option to specify constraints or targets for the performance measures defined in the previous panel. Performance constraints can be defined for each program's segment or on the program as a whole. Performance constraints are a very important feature of program optimization. By evaluating the benefits of possible projects on each bridge within the analysis, the optimization process will maximize utility while meeting the performance and budgetary constraints on a year-by-year basis throughout the program's horizon. Should the program constraints not be met, the software will optimize based on utility and the best iteration of projects for the constraints.

For example, assume the following constraints for the Deck NBI rating: Min = 5, Target >= 7. In this case, the optimization process will aim at generating a program in which the Deck NBI rating of each bridge is always greater than or equal to 5 and the average NBI rating of the entire network is at least 7 in each program year. Another example could be defining a constraint for having the percentage of structurally deficient bridges by deck area be less than 20%. In this case, the optimization process will generate a program in which the percentage of bridges in deficient conditions is at most 20%. This flexibility allows for measures to be maximized or minimized depending on the target constraint.



Bridge Management (BrM) Life Cycle Cost Analysis

Life-Cycle Cost Analysis (LCCA) is a technique for evaluating the economic efficiency of different bridge activity profiles. An activity profile consists of actions (interventions) planned to be performed on a bridge over a defined period of time. LCCA's major objective is to identify all economic costs incurred throughout the bridge's life cycle to compare different activity profiles.

Agencies typically plan future bridge work over a short-term period of 5-20 years. This is usually the time-frame that a detailed plan consisting of future actions and their timing can be specified. However, bridges are generally functionally operating much longer than 20 years. Consequently, a comprehensive life-cycle cost analysis requires modeling long-term future work as well.

Uncertainty beyond the short-term period is very high, thus making the task of predicting long-term actions very challenging. Due to this high uncertainty, the long-term analysis is expected to give only a "reasonable indication of the magnitude of future costs". To predict bridge activities, LCCA makes use of a preservation and replacement policy, which determines the scope and timing of activity profiles based on the bridge conditions and agency policies. Thus, LCCA is conducted under the assumption that a specific preservation policy is followed throughout the life-cycle of each bridge, and consequently, the accuracy of LCCA results will depend on how strictly the preservation policy will be implemented throughout the bridge's life-cycle.

Strategic Direction Set for Bridge Products

1. Supporting bridge and asset management
2. Enhancing decision support capabilities
3. Supporting agency business processes for design and preserving the bridge inventory
4. Preserving and expanding the license base
5. Enhancing usability
6. Supporting other related business processes
7. Strengthening product integration
8. Developing product technical architectures
9. Improving the software development process
10. Facilitating third-party development

Planning that is underway for both the near and long term strives to meet these goals.

Product Websites

Project websites contain additional information about AASHTOWare® Bridge products including access to technical support, general information, helpful links to other websites including the customer support centers and access to an end user mailing list. The mailing list provides end users an opportunity to be emailed product news.

AASHTOWare® Bridge Management: http://aashtowarebridge.com

AASHTOWare® Bridge Rating and Design: http://aashto.mbakercorp.com

Upcoming AASHTOWare® Bridge User Group Meetings

Rating and Design Bridge User Group (RADBUG)

August 2-3, 2016
Location: Chicago, IL

Bridge Management User Group (BrMUG)

September 20-21, 2016
Location: San Antonio, TX

Contractors for AASHTO Bridge Products

AASHTOWare Bridge Design and Rating
Michael Baker International
100 Airside Drive
Moon Township, PA 15108
Contact: James A. Duray, Project Manager
Phone: 412-269-6410
Email: BrDR@mbakerintl.com

AASHTOWare Bridge Management
Bentley Systems, Incorporated
810 River Avenue, Suite 300
Pittsburgh, PA 15212
Contact: Jeremy Shaffer, Senior Director, Product Management
Phone: 877-913-1550
Email: BrM@bentley.com

AASHTOWare® Bridge Task Force and Management Team

Todd Thompson – South Dakota DOT	Bridge Products Task Force Chairman
Eric Christie – Alabama DOT	Vice-Chairman/Task Force member - BrM
Mark Faulhaber – KY Transp. Cabinet	Task Force member - BrM
Bruce Novakovich – Oregon DOT	Task Force member - BrM
Beckie Curtis – Michigan DOT	Task Force member - BrM
Thomas Martin – Minnesota DOT	Task Force member - BrM
Derek Constable - FHWA	Task Force FHWA Liaison - BrM
Dean Teal – Kansas DOT	Task Force member - BrDR
Amjad Waheed - Ohio DOT	Task Force member - BrDR
Jeff Olsen – Montana DOT	Task Force member - BrDR
Joshua Dietsche – Wisconsin DOT	Task Force member - BrDR
Tom Saad - FHWA	Task Force FHWA Liaison -BrDR
Judy Skeen - AASHTO	Project Manager

To subscribe to this newsletter, go to http://aashto.mbakercorp.com or http://aashtowarebridge.com/