AASHTOWare Bridge Management
National Bridge Inspection Standards Solicitation

An overview of AASHTO's solicitation to perform the required updates to the AASHTOWare Bridge Management software as a result of the changes brought forth by the Specifications for the National Bridge Inventory (SNBI).

National Bridge Inspection Standards Solicitation
December 2021
For questions or additional information, please contact the AASHTOWare Bridge Project Manager, Ryan Fragapane at rfragapane@aashto.org.

www.aashtowarebridge.com

MESSAGE FROM
Eric Christie, Vice-Chair

The AASHTOWare business model strives to keep the annual cost of the software as low as possible for all member agencies. However, at strategic times, AASHTO must pursue solicitations in order to be able to respond to major initiatives, such as changes in federal law or policy.

The Moving Ahead for Progress in the 21st Century Act (MAP-21) required the Secretary to update the National Bridge Inspection Standards (NBIS). Through a Notice of Proposed Rulemaking (NPRM), FHWA proposes to update the NBIS to address MAP-21 requirements. In addition, the FHWA will update the Recording and Coding Guide for the Structure Inventory and Appraisal of the Nation's Bridges to the Specifications for the National Bridge Inventory (SNBI).

AASHTO's efforts are underway to solicit member agencies to participate in the update of the AASHTOWare Bridge Management software to support the changes brought forth by the NBIS and support its member agencies for decades to come.

This undertaking will require large-scale participation from its member agencies.

If properly funded, this solicitation will:

- Upgrade BrM to meet all new and anticipated Federal requirements related to bridge management and inspection

- Redesign the BrM database structure to accommodate new Federal recording requirements

- Overhaul various portions of the BrM User Interface (UI) to make it more intuitive and efficient for users

- Build on the strong foundation of previous versions that have formed nearly 30 years of cooperative State and Federal efforts by updating the backend technologies within BrM

- Modernize the software to improve performance and increase speed and efficiency

- Providing focused training and implementation assistance to participating agencies to ensure a seamless transition

Please join me and other licensing agencies as we help to forge the next generation of BrM.

Eric Christie, P.E.
Deputy State Maintenance Engineer
Alabama Department of Transportation

REASONS FOR
A SOLICITATION

The need for this project falls into three broad categories: Regulatory Compliance, Product Functionality, and BrM Sustainability.

Regulatory Compliance

The Moving Ahead for Progress in the 21st Century Act (MAP-21) required the Secretary of Transportation to update the National Bridge Inspection Standards (NBIS). Through a Notice of Proposed Rulemaking (NPRM), the FHWA proposed to update the NBIS to meet MAP-21 requirements. This project is intended to fully comply with these new and proposed requirements. BrM frontend and backend functionalities will need to be modified, upgraded, and/or restructured to ensure compliance.

Enhanced Functionality

Over the last 10 years, the Task Force has been highly focused on adding and enhancing functionality to increase BrM's serviceability. BrM has vastly expanded its features in the inspection module, increased the number of available features based on direct agency feedback or contributions (e.g., Critical Findings module added via version 6.6), implemented new technologies to better align with industry practices (e.g., enterprise version of BrM and mobile data collection application), and continuously strengthened and improved the Management tools to ensure BrM is on the cutting edge of asset management needs. As part of this solicitation, additional functionalities will be added to BrM, including:
- New Page to record and track roadway, railroad and water crossing data
- New Railing User Interface
- Inspection History screen showing read-only historical inspections
- See Page 4 for a comprehensive list of all components included in the Solicitation

Sustainability through Design

Similar to the management of a physical asset, software also requires maintenance and preservation actions to keep it sustainable and operational. BrM has technologies implemented from the previous decade which are approaching end of life and should be addressed in a financially responsible manner. The sustainable design for this project includes the modifications necessary to comply with the SNBI requirements as well as the replacement of BrM technologies that will no longer be supported with current state-of-the-art technologies, a direction that supports significant cost savings to deliver the new FHWA requirements while ensuring the sustainability of BrM for the next 15-20 years.

MAJOR COMPONENTS
OF THE SOLICITATION

The solicitation work plan will be made available following the official release of the coding guide and will include in-depth details documenting the complete scope of this release. Major components include:

- Database Updates
- User Interface Updates
- BrM Security Module
- BrM Security Upgrades
- Inspection Process Enhancements
- Workflow Enhancements
- Load Rating Page Enhancements
- Reporting Enhancements
- Administrative Enhancements
- Analysis Section Enhancements
- Project Selection Enhancements
- Program Selection Enhancements
- Gateway Enhancements
- Additional Enhancements (funding dependent)
- .NET to .NET Core Migration
- User Training

MEMBER AGENCY
CONTRIBUTION

$300K

The recurring revenue generated by the annual BrM license fees is continually reinvested into the ongoing maintenance, support, and enhancement of the software.

In order for the BrM software to maintain its compliance with the new FHWA standards, large scale changes need to be developed and implemented. As a result, AASHTO is expecting a critical investment of $300,000 per licensed member agency to fund this solicitation.

AASHTO has coordinated with FHWA to allow contributors to use 100% of State Planning and Research (SP&R) funds for this project. A copy of the letter authorizing the use of these funds and a waiver of the non-Federal funding match requirement will be provided when the solicitation is distributed to member agencies.

Contributions can be committed prior to the solicitation being officially published. Existing service units from any AASHTOWare product can be contributed to the solicitation. Additionally, contributions can be made over multiple fiscal years. If your agency does not plan to contribute in advance of the solicitation, please investigate your agency's steps for contributing once the solicitation is published.

ADDITIONAL BENEFITS
FOR CONTRIBUTING AGENCIES

IMPLEMENTATION ASSISTANCE

Mayvue will provide contributing agencies with BrM upgrade assistance to quickly and efficiently implement the latest release.

TECHNICAL REVIEW TEAM MEMBERSHIP

As a member of the project's Technical Review Team, you will serve as an advisory group member and oversee the development work of this project.

END USER TRAINING

Mayvue will provide contributing agencies with a focused training session to learn and discuss the SNBI changes with BrM.

SEQUENCE
OF EVENTS

01   FHWA releases the NBIS, SNBI, and implementation timeline.

02   AASHTOWare Bridge Task Force and Mayvue will develop and publish an official release timeline.

03   Create and publish the official work plan detailing deliverables.

04   Solicitation package released by AASHTO and funds collected.
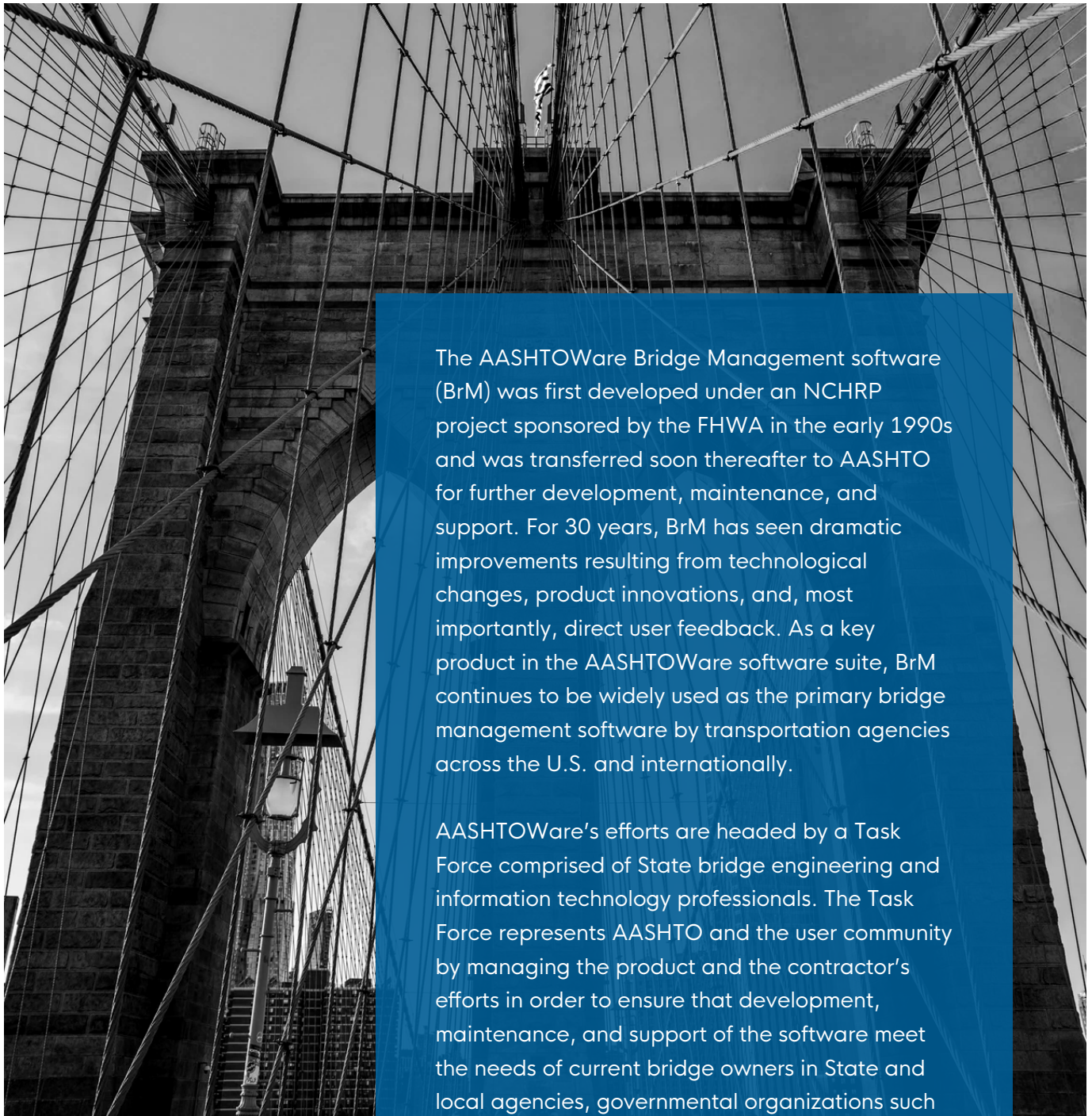
05   AASHTOWare BrM development coordination with the Technical Review Team and release.

**06**   Focused training and support of agencies that participate in the solicitation.

ABOUT
AASHTOWare BrM

The AASHTOWare Bridge Management software (BrM) was first developed under an NCHRP project sponsored by the FHWA in the early 1990s and was transferred soon thereafter to AASHTO for further development, maintenance, and support. For 30 years, BrM has seen dramatic improvements resulting from technological changes, product innovations, and, most importantly, direct user feedback. As a key product in the AASHTOWare software suite, BrM continues to be widely used as the primary bridge management software by transportation agencies across the U.S. and internationally.

AASHTOWare's efforts are headed by a Task Force comprised of State bridge engineering and information technology professionals. The Task Force represents AASHTO and the user community by managing the product and the contractor's efforts in order to ensure that development, maintenance, and support of the software meet the needs of current bridge owners in State and local agencies, governmental organizations such as the FHWA, and private consultants.
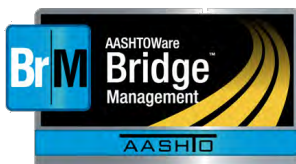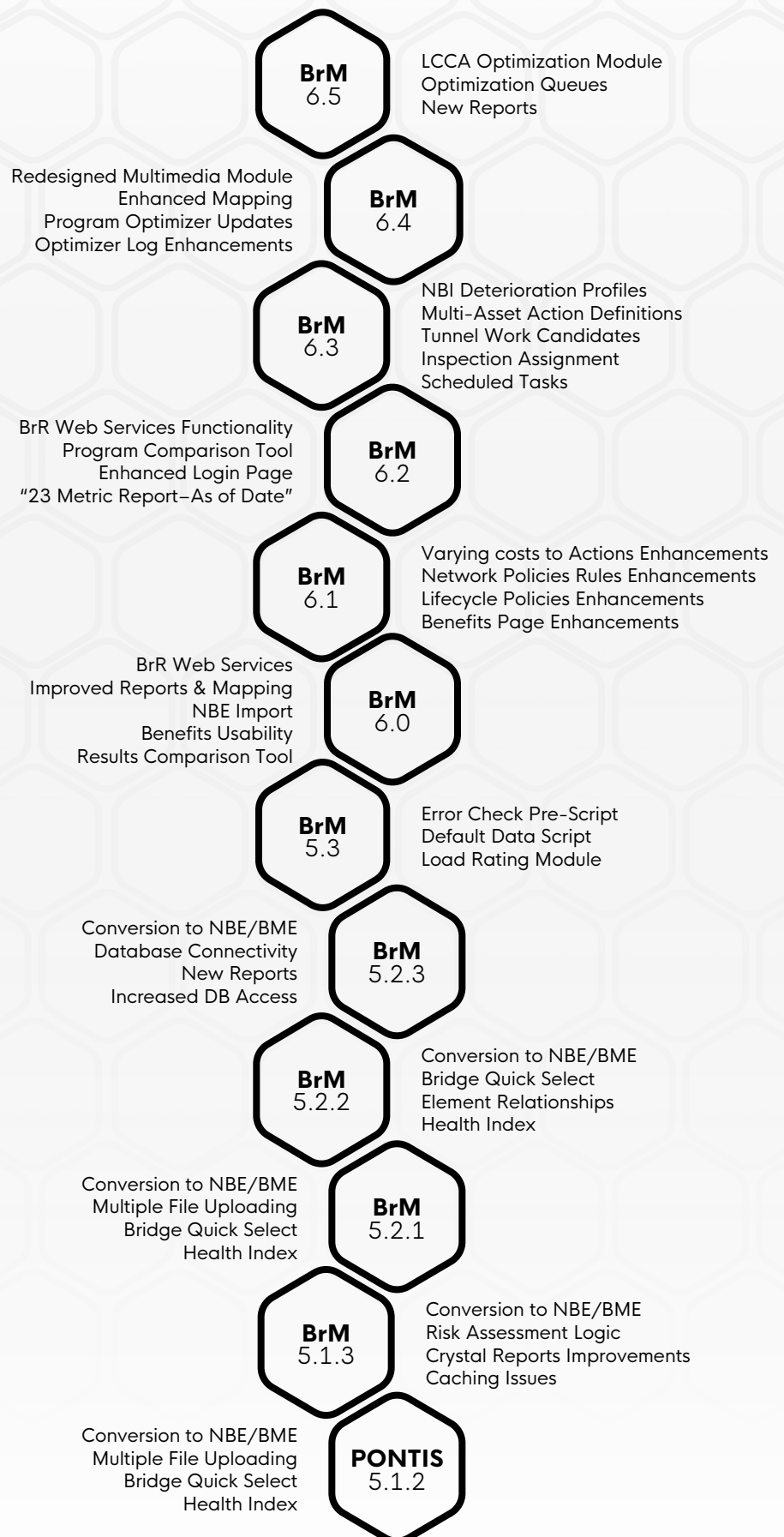
CONTINUOUS EVOLUTION OVER THE PAST 10 YEARS

For nearly 10 years, the AASHTOWare Bridge Management Task Force has orchestrated significant investments in new features and enhancements using annual license fees to continue to provide additional benefits to the BrM user community.

With major releases almost every year, BrM licensees are able to take advantage of the latest and greatest developments in Bridge Management and Inspection.

NEXT MAJOR RELEASE: BrM 6.6
In 2022, the next major release of the BrM software will include many highly anticipated features:

+ Critical Findings Module
+ Signs Module
+ User Certifications Module
+ Funding by Project Allocation
+ Analytical Tools
+ Multimedia Enhancements

BrM 6.5
LCCA Optimization Module
Optimization Queues
New Reports

BrM 6.4
Redesigned Multimedia Module
Enhanced Mapping
Program Optimizer Updates
Optimizer Log Enhancements

BrM 6.3
NBI Deterioration Profiles
Multi-Asset Action Definitions
Tunnel Work Candidates
Inspection Assignment
Scheduled Tasks

BrM 6.2
BrR Web Services Functionality
Program Comparison Tool
Enhanced Login Page
"23 Metric Report—As of Date"

BrM 6.1
Varying costs to Actions Enhancements
Network Policies Rules Enhancements
Lifecycle Policies Enhancements
Benefits Page Enhancements

BrM 6.0
BrR Web Services
Improved Reports & Mapping
NBE Import
Benefits Usability
Results Comparison Tool

BrM 5.3
Error Check Pre-Script
Default Data Script
Load Rating Module

BrM 5.2.3
Conversion to NBE/BME
Database Connectivity
New Reports
Increased DB Access

BrM 5.2.2
Conversion to NBE/BME
Bridge Quick Select
Element Relationships
Health Index

BrM 5.2.1
Conversion to NBE/BME
Multiple File Uploading
Bridge Quick Select
Health Index

BrM 5.1.3
Conversion to NBE/BME
Risk Assessment Logic
Crystal Reports Improvements
Caching Issues

PONTIS 5.1.2
Conversion to NBE/BME
Multiple File Uploading
Bridge Quick Select
Health Index

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