AASHTOWare Bridge Management (BrM) Software
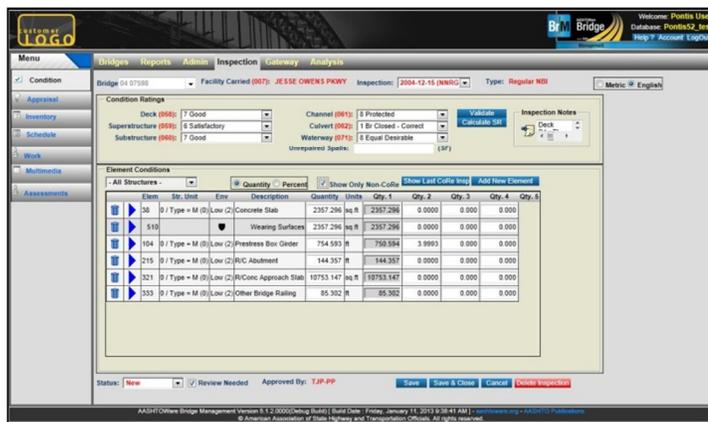### Version 5.2

What is BrM? BrM (formerly Pontis) is a powerful Bridge Management Software tool that is used by over 44 State, Federal, local, and international agencies. The software has been developed over the past 20 years through extensive research and users' feedback. It originally started as an FHWA project to meet a critical national need, then was transferred to AASHTO to be part of AASHTOWare's cooperative software development efforts. Agencies utilize the BrM software for a range of bridge asset needs: bridge inventory and inspection data storage, deterioration modeling, project planning, and network budget and performance analysis.

AASHTO's proven Bridge Management Software

What can BrM 5.2 do for me? The next generation of BrM will be a significant advance in bridge management analytical software. Based on extensive user feedback, advancements in state of the art technology, and current agency best practices, version 5.2 will:

- **Fully incorporate AASHTO's new National Bridge Elements**
  In 2010 AASHTO adopted the Guide Manual for Bridge Element Inspection, which supports a new improved inspection approach building off of the previous Commonly Recognized Elements (CoRe). BrM 5.2 will fully incorporate all management activities using this new AASHTO guide.

- **Easier to use and equipped with more features**
  The 5.2 user interface will be significantly improved to allow for a simplified approach to managing the vast amount of data and utilizing new features present in the software. The simplified user interface will better support the wide range of users throughout an agency and their unique needs.

- **Better align with State DOT business practices**
  Redesigned project programming module will incorporate user feedback and current agency best practices to allow for a more flexible approach for planning, organizing, and grouping needs at bridge, project, or program level.

BrM fully incorporates AASHTO's National Bridge Elements including Protective Systems and Defect Flags.
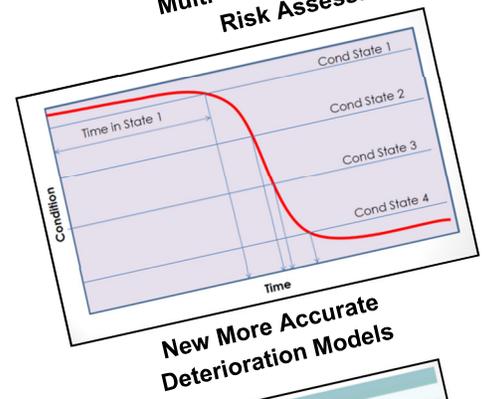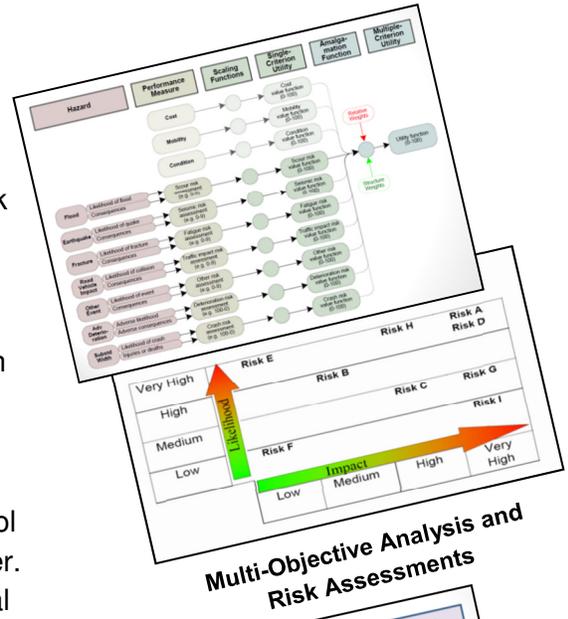
What are the Advantages of BrM 5.2?
BrM is fully supported and maintained by AASHTO. Its development and features are coordinated with AASHTO guidelines and meets FHWA regulatory requirements. As with other AASHTOWare products it is administered and overseen by a task force of State DOT representatives. Advantages include:

- *Proven Element Level Approach*

- *Full support for Multi-Objective Optimization Analysis*

- *Advanced Deterioration Models*

- *Project and Needs Programming to support State DOT's unique business practices*

What are the Main Features of Version 5.2?

5.2 builds off of the successes and lessons learned in earlier versions to dramatically improve the software's features and usability for agencies. Some of the many new features that will be supported are:

- **Full Incorporation of Risks**: Agencies will be able to select from risks such as seismic, scour, and agency specific risks to develop risk matrices and related risk mitigation solutions and prioritize the risks against competing needs.

- **Enhanced Deterioration Models:** The use of new National Bridge Elements will enable significant improvements to current deterioration models in BrM. A new approach based on realistic deterioration models will be incorporated. The development of the deterioration models will be simplified and easier to understand and adapt.

- **Life Cycle Cost Analysis:** LCCA is a powerful project evaluation tool that will be expanded and presented in an easy to understand manner. The new LCCA tools will allow the agency to fully understand the total costs associated with project level decisions they make. The project planning tool will allow agency planners to evaluate various project options on the fly with clear presentation of the life cycle costs associated with each alternative.

- **Project Planning**: The new project planning modules will allow for major enhancements and greater flexibility in planning projects. The software will allow for easy identification of bridge, project, or program needs and the calculation of associated relative benefits. The approach can support middle-out, top-down, or bottom-up models for creation of programs within an agency. Version 5.2 will have the ability to do corridor and group based planning and better incorporate maintenance and preservation recommendations.

- **Web Enabled**: The software will be fully web-enabled for secure anytime/most anywhere access.

- **Enhanced Reporting and Data Exchange**: Numerous features within the software will be made simpler to use and offer technology upgrades. This includes but is not limited to revamped reporting modules as well as the new ability to transfer data in XML format.

Multi-Objective Analysis and Risk Assessments

New More Accurate Deterioration Models

Enhanced Programming and Tradeoff Analysis

What is the Plan for Release?

The AASHTOWare Bridge Task Force has already conducted significant foundation work in the research and planning for BrM 5.2. The software modules to incorporate the new AASHTO National Bridge Elements for bridge management will be released in phases. Each phase will build upon previous work and modules by adding new features. A brief summary of the anticipated phases is as follows:

- Phase I: Risk assessments, integrated utility functions, and network corridors
- Phase II: Implementation of significantly improved deterioration models and multi-objective analysis
- Phase III: Full completion including integrated project planning and all administrative features