AASHTOWare

Bridge Design™

Features

- ✓ Superstructure and substructure design in accordance with AASHTO LRFD Bridge Design Specifications
- ✓ Supports two or three dimensional bridge descriptions
- ✓ 3-D description serves as the basis for 3-D modeling and analysis
- ✓ Computational engines supports both line girder and 3-D analysis

AASHTOWare® Goals/Benefits

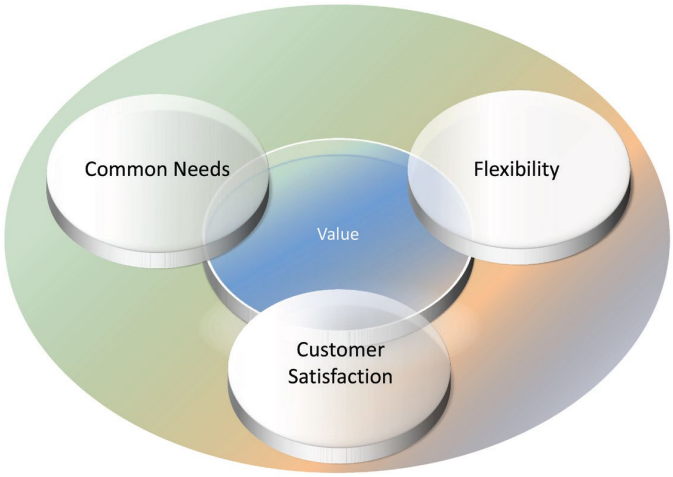
- ✓ Pooling resources to produce significant cost savings
- ✓ DOT-Driven software
- ✓ Best practices approach
- ✓ Focus on universal requirements – meet 90% of common needs
- ✓ Built in flexibility – allows software customization to meet unique needs (i.e. the remaining 10%)

Who uses AASHTOWare Bridge Design software?

State DOTs, Local Agencies, plus District of Columbia, Puerto Rico, FHWA, Canadian Provinces, engineering design consultants, and educational institutions within the jurisdiction of AASHTO Member and Associate Member Departments

About the Software

AASHTOWare Bridge Design uses a common database with AASHTOWare Bridge Rating to allow an organization to store a detailed description of each bridge, which is independent of the analytical engine, method of analysis, and specification. Among the benefits are:



- ✓ Design a bridge using multiple analysis programs and versions of the LRFD specification from the same description and input
- ✓ Software framework facilitates the upgrading and/or replacing components of the system, including the structural analysis engine, specification checking software, and user interface while preserving the basic bridge data
- ✓ Bridge data may be easily linked to other related software systems, including bridge management systems such as AASHTOWare Bridge Management

The new, modernized AASHTOWare Bridge Design 7.0, scheduled to be released in December 2020, will significantly upgrade the core technology to a modern software architecture that will fully utilize current and future hardware, and the latest software development technologies. The primary benefits will be realized in the modernized AASHTO analytical engine for bridge design and rating. The modernized engine improves on the analysis runtime performance of all structure types. In addition to the modernized engine, the modernized system will feature an improved and simplified user interface that is easier to use for beginners without losing modeling flexibility and robustness for advanced users.

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The AASHTOWare Bridge Design 6.8.4 is the last release of the legacy system. Functionality enhancements and maintenance going forward will be incorporated into the modernized system.

Standalone tools delivered with AASHTOWare Bridge Design 6.8.4 and 7.0:

- ✓ Prestressed Concrete Design Tool
- ✓ Regression Comparison Tool

Product Information

- ✓ AASHTOWare Bridge Design & Rating Technical Support - https://www.aashtowarebridge.com/bridge-rating-and-design/
- ✓ Rating & Design Bridge User Group (RADBUG) - http://aashtobr.org
- ✓ AASHTOWare - https://www.aashtoware.org
- ✓ AASHTOWare FY2021 Catalog - https://www.aashtoware.org/wp-content/uploads/2020/05/FY_2021_AASHTOWare_Catalog.pdf

Current Features

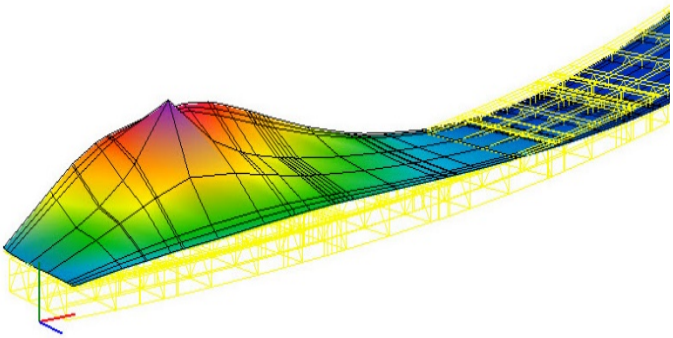
Bridge Configurations and Capabilities

Superstructures

- ✓ Reinforced concrete tee beams, slabs, I-beams, and multi-cell box beams
- ✓ Reinforced concrete box culverts
- ✓ Prestressed concrete box, I, tee, and U-beams (precast, pretensioned, continuity for live load, harped strands, and de-bonded strands)
- ✓ Steel rolled beams (including cover plates)
- ✓ Steel built-up plate I-girders
- ✓ Steel welded plate I-girders (including hybrid)
- ✓ Simple spans, continuous spans, hinges (steel and reinforced concrete)
- ✓ Parallel and flared girder configurations
- ✓ Parallel, tapered, parabolic, and circular webs
- ✓ Transverse and longitudinal stiffened
- ✓ Frame structure simplified definition
- ✓ Girder-line and 3D-FEM analyses
- ✓ 3-D analysis of steel and concrete multi-girder superstructures
- ✓ 3-D analysis of curved steel multi-girder superstructures
- ✓ U.S. customary and S.I. units

Substructures

- ✓ Analysis and spec-checking of bridge piers including wall, hammerhead and multi-column pier bents
- ✓ Single drilled shaft for substructure



Design Review/Specification Checking Features

- ✓ LRFD specification checking with detailed computation reporting
- ✓ Design ratio graphs and summary reports
- ✓ Wizards for simplifying the modeling of steel and prestressed concrete bridges
- ✓ AASHTO engine for LRFD design reviews/ specification checking

LRFD Design Capabilities

- ✓ Prestressed Concrete Design Tool
- ✓ Shear Stirrup Design Tool
- ✓ Shear Stud Design Tool
- ✓ Flange to web weld design
- ✓ Reinforced Concrete Box Culvert Design Tool

Output Reporting Features

- ✓ Sophisticated set of output reports to help the designer understand the performance of a new bridge
- ✓ Tree-structured graphical representation of the LRFD specification indicates whether each article is passed or failed and provides access to the detailed calculations for the bridge and the specification text
- ✓ Suite of X-Y plots show moments, shears, deflections, and other valuable information

Graphical Features and Customizable Libraries

- ✓ Libraries of standard and user-defined vehicles, loads, steel and prestressed shapes, load and resistance factors, materials, parapets, and other bridge

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components allow bridge models to be built quickly in a drag-and-drop manner
- ✓ All or part of a bridge can quickly be copied to another bridge
- ✓ As a bridge model is constructed, a framing plan, elevation view, cross-section view, and other schematics are generated to provide feedback and reveal modeling errors

Architectural Support for Third-Party Customization and Add-ons

Since a bridge structural model can be complex, AASHTOWare Bridge Design provides a simplified object model that ties the modules of the system together and makes the software open to expansion by experienced users and third-party developers. The AASHTOWare Bridge Design and Rating .NET Application Program Interface makes it possible to access the system's data from many commercial software packages, including Visual Basic®, Excel®, AutoCAD®, and even Microsoft Word®. AASHTO encourages third-party developers to market add-on features, which enhance the core capabilities of the system.

Licensing

Description	Annual License Fee (Effective July 1, 2020)
Single Workstation	$ 10,500 (first copy)
	$ 9,000 (copies 2+)
Unlimited Users	
• AASHTO Member	$ 39,500
• Non-Members	$ 52,500
Special Consultant Option	$ 5,500 per copy
Agency Sponsored	$ 34,700 (10)
Consultants	$ 63,000 (20)
	$ 94,500 (30+)
Developer	$ 2,000
Educational (classroom instruction)	FREE

The complete list of and explanation of the available licensing options can be found at https://www.aashtoware.org/products/bridge/bridge-ordering

Service Units are optional fixed-fee units of contractor-provided service offered to licensees for consultation and support to assist in implementation or customization of the software.
Examples of services provided:

- ✓ Preparing and importing data
- ✓ Specialized software training
- ✓ Agency-specific modifications and validations
- ✓ Agency-customized reports

Contacts

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