

AASHTOWare® CATALOG



Creating the
Next Generation of
Technology Solutions

FY 2021

Creating the
Next Generation of
Technology Solutions

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- AASHTOWare Project Cost Estimation,
- AASHTOWare Project Data Analytics,
- AASHTOWare Project Estimation,
- AASHTOWare Project Mobile Tester
- AASHTOWare Project Preconstruction,
- AASHTOWare Project SiteManager,
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OVERVIEW

Welcome to the AASHTOWare® products and services catalog for fiscal year 2021. This catalog provides information on existing and proposed products and services offered by AASHTO through its Cooperative Software Development Program. The catalog includes descriptions of each AASHTOWare product and service, hardware and software requirements, license fee schedule, and the availability of service units where applicable. In addition, the catalog provides instructions on ordering the AASHTOWare products and services.

How to Order AASHTOWare Products and Services

A brief description of the ordering and licensing procedures for both Member Department and Non-Member Agencies is described below. All products, services, and associated fees are provided on an annual fiscal year basis. The current AASHTO fiscal year period begins on July 1, 2020 and ends on June 30, 2021. Additional information can be obtained by visiting our website at <http://www.aashtoware.org> or by calling Angel Williams, AASHTOWare Business Operations Manager, at (202) 624-5808.

Member Agencies

Orders for the AASHTOWare products are transmitted through our annual solicitation and commitment process. An annually distributed package includes two (2) forms that we request be completed and returned to indicate which software products or projects your department wishes to license or participate in during the current fiscal and license year. From your department's return of the AASHTOWare Products and Services Request Form and the Primary Designee Form, we will prepare the appropriate Supplemental License Agreements and invoices; all previously executed Master License Agreements remain in place. If your member department or agency has not yet executed a Master Software License Agreement with AASHTO, and you wish to participate in any of the current projects/products, simply complete and return the appropriate forms. A Master License Agreement and the current fiscal year Supplemental License Agreement with an appropriate invoice will be provided for execution.

The AASHTOWare Products and Services Request Form and the AASHTOWare Member Department/Agency Primary Designee Form are available online at <http://www.aashtoware.org>.

Non-Member Organizations

Orders may be transmitted through the annual AASHTO software solicitation and commitment process for non-member licensees of AASHTOWare products. Participation in the solicitation allows you to indicate which AASHTOWare products your firm plans to license during the current fiscal year period. From the completion and return of the Non-Member Software Request Form and the Non-Member Primary Designee Form, AASHTO will prepare the appropriate license agreements and invoice(s) for the current AASHTO license year and submit them to you for execution. If you wish to license any of the current product(s), simply complete and return the appropriate forms. A License Agreement for the current fiscal year along with an appropriate invoice will be provided for execution.

The AASHTOWare Non-Member Software Request Form and the Non-Member Primary Designee Form is available online at <http://www.aashtoware.org> or you may order online at <https://store.aashtoware.org>. Registration is required prior to ordering.

Introduction

AASHTOWare Project software is the complete, enterprise-wide software solution developed by AASHTO for managing an agency's construction program.

The web-based AASHTOWare Project software consists of the following modules designed to meet transportation agencies preconstruction and civil rights and labor management, construction and materials, and estimation needs.

- **AASHTOWare Project Estimation[™]—Estimation System**

AASHTOWare Project Estimation is a web-based cradle-to-grave estimation application. AASHTOWare Project Estimation provides a variety of estimation methodologies (bid-based, cost based, reference based, parametric estimation, ad hoc pricing, collection bases) to perform your estimates. AASHTOWare Project Estimation includes the assessment and assignment of risk contingency, life cycle analysis tools, expansion of existing import/export capabilities, inclusion of non-bid costs, non-construction costs and markups, and the ability to utilize snapshots in creation of an audit trail for the agency's estimates. The software provides the ability to run a quick analysis of bid-history pricing to utilize in what-if scenarios and planning discussions. AASHTOWare Project Estimation contains interactive graphical display for accessing the dynamic bid history profiles utilizing the AASHTOWare Project Data Analytics analysis. AASHTOWare Project Estimation requires licensing of AASHTOWare Project Preconstruction. For bid-based pricing, licensing of AASHTOWare Project Data Analytics is required.

- **AASHTOWare Project Preconstruction[™]—Proposal, Estimates, Letting, and Award System**

AASHTOWare Project Preconstruction replaces the existing client/server PES and LAS modules with a web-based product offering similar functionality which allows the user to enter project data, prepare the PS&E estimate, create proposals, select a group of proposals for a bid letting and create various reports. In addition to the replacement of PES/LAS, AASHTOWare Project Preconstruction includes features such as simplified installation, a unified database, consolidated security model, workflow/phase handling, innovative bidding a new reporting tool, improved handling of generic fields, and customization features. A data migration utility from PES/LAS has also been included to assist agencies in their migration to the web-based product. Licensing of AASHTOWare Project Data Analytics or AASHTOWare Project BAMS/DSS is required in order to utilize the AASHTOWare Project Preconstruction basic bid-based item price functionality.

- **AASHTOWare Project Bids[™]—Electronic Bidding System**

The AASHTOWare Project Bids software streamlines the bidding process, providing transportation agencies with control over the bid letting process while facilitating bid submittal for contractors. Bidders are able to receive proposal item schedules and to submit and withdraw item bids in a secure, electronic environment. The AASHTOWare Project Bids software provides security and encryption functionality for bids submitted over the Internet.

The AASHTOWare Project Bids software is designed to exchange data with the AASHTOWare Project Preconstruction software or similar systems. Item schedule data can be produced to assist with proposal creation and proposal information can be shared with many word processing, database, or spreadsheet systems.

The AASHTOWare Project Bids software supports proposals with alternate sections or alternate items, lump sum and fixed price items, and the electronic distribution of amendments. Bidders simply open the AASHTOWare Project Bids file provided by the letting agency and enter line item prices for each item. The AASHTOWare Project Bids software calculates bid values as bidders work through the item list and alerts them if an item is accidentally omitted. The software facilitates import and export of item lists to allow for interaction with bid estimation systems commonly used by the contracting community.

The AASHTOWare Project Bids software uses a customizable configuration file to meet agency needs. The configuration file provides control over printed and displayed data and information gathering.

- **AASHTOWare Project Civil Rights & Labor™**—Civil Rights and Labor Management System

AASHTOWare Project Civil Rights & Labor receives and processes the data required to meet federal and state requirements for civil rights and labor compliance activities. AASHTOWare Project Civil Rights & Labor is a web-based product offering that allows the effective administration of an agency's external civil rights and labor compliance activities such as contractor payrolls and labor compliance, wage decisions, Disadvantaged Business Enterprise (DBE) certification, vendor data management, DBE commitments, On-the-Job Trainees (OJT) tracking and monitoring, subcontractor data and prompt pay tracking, Bidder/Quoter submittals, trucking types and tracking, interfaces with client/server, and contract compliance reviews. Functionality and security is also available to allow non-agency users (e.g. contractors and subcontractors) to access AASHTOWare Project Civil Rights & Labor to submit electronic payroll and subcontractor payment information. Non-agency users can also manage DBE commitments and Bidder/Quoter submittals. AASHTOWare Project Civil Rights & Labor requires licensing of AASHTOWare Project Preconstruction.

Two tools are also available to assist contractors and payroll software companies in creating Extensible Markup Language (XML) formatted payroll files for import into AASHTOWare Project Civil Rights & Labor software: the AASHTOWare Project Payroll Spreadsheet and Conversion Utility and the AASHTOWare Project Payroll XML Developer's Resource Kit.

- **AASHTOWare Project Construction & Materials™**—Construction Management, Materials Management and Laboratory Information Management System

AASHTOWare Project Construction & Materials is a web-based construction and materials management software application. AASHTOWare Project Construction & Materials covers the construction and materials management process, including laboratory information management functionality. It is a powerful application spanning all levels of construction and materials enabling personnel to progress a contract and its supporting documentation from award through finalization.

AASHTOWare Project Construction & Materials allows an organization to manage all aspects of a construction project through Daily Work Reports, diaries, storm water compliance inspections, contract change orders, force accounts, contractor evaluations, design evaluations, plan discrepancies, meeting records, document submission and review, stockpiles, and contractor payments. AASHTOWare Project Construction & Materials provides the ability to track materials, approve materials for source and facilities, qualifications (for testers, samplers, calibrators, welders, and laboratories), track test equipment and calibrate equipment, withhold payment for insufficient materials, approve mix designs for their design and use on a construction contract. AASHTOWare Project Construction & Materials features a laboratory information management component which allows an organization the ability to manage and track progress through each critical step of the material sample lifecycle.

- **AASHTOWare Project Data Analytics™**—Data analytics system

The first licensable component of the AASHTOWare Project Data Analytics software became available with the AASHTOWare Project 4.0 software release in September 2017. AASHTOWare Project Data Analytics in the web-based AASHTOWare Project software currently provides graphical, bid-based price analysis and item price estimates utilizing historical bid data from the web-based AASHTOWare Project unified database. The analytical methodology, originating from AASHTOWare Project BAMS/DSS, includes expanded functionality available only in the web-based version of AASHTOWare Project.

All agencies with a paid license to AASHTOWare Project BAMS/DSS or an AASHTOWare Project Site License, will be permitted access to the two Software-as-a-Service (SaaS) themes released in August 2018 (includes features from Line Item Profiles and Bid Evaluation Analysis) in addition to the web-based AASHTOWare Project Data Analytics functionality developed up to and included in AASHTOWare Project 4.1.

If an agency without an AASHTOWare Project BAMS/DSS license chooses to execute an annual license to AASHTOWare Project Data Analytics, they will be granted access to the two SaaS themes released in August 2018 (includes features from Line Item Profiles and Bid Evaluation Analysis) in addition to the web-based AASHTOWare Project Data Analytics functionality developed up to and included in AASHTOWare Project 4.1.

If an agency also chooses to execute a no-cost evaluation license agreement of AASHTOWare Project Data Analytics, access to an evaluation site will be granted for a period of 3 months. Access will be provided to all AASHTOWare Project Data Analytics web-based components as well as the SaaS components for evaluation-only, non-production purposes, and will include upload of agency-specific data.

- **SYNC Service for AASHTOWare Project**

SYNC Service for AASHTOWare Project provides automatic synchronization of data between the mobile applications on a smartphone or tablet and the AASHTOWare Project software. Currently, the service includes secure storage and transmission for three mobile apps. The first is between the Mobile Inspector mobile application and the AASHTOWare Project SiteManager, the AASHTOWare Project FieldManager, or the AASHTOWare Project Construction & Materials application software. The second is between the Field Interviewer application and the AASHTOWare Project Civil Rights & Labor software. The third is between AASHTOWare Project Mobile Tester™ and AASHTOWare Project Construction & Materials.

The legacy AASHTOWare Project software consists of the following modules designed to meet most transportation agency preconstruction and construction management needs.

- AASHTOWare Project Cost Estimation™—Cost Estimation System
- PES®—Proposal and Estimates System
- LAS®—Letting and Award System
- AASHTOWare Project Construction Administration™—Construction Administration System
- AASHTOWare Project BAMS/DSS™—Data Warehouse and Decision Support System
- AASHTOWare Project Estimator™—Cost Estimation Workstation
- AASHTOWare Project SiteManager™—Construction Management System
- AASHTOWare Project SiteXchange™—Contractor Data Transfer
- AASHTOWare Project FieldManager™—Construction Management Suite for Project Engineers and Inspectors
- AASHTOWare Project FieldNet™—Electronic Data Transfer System for FieldManager

Each AASHTOWare Project module addresses the needs of the transportation agency during a particular phase in the construction life cycle, beginning with project definition, through the archival of final contract information, and beyond, by providing access to data for use in decision-making and reporting. A Site License, which includes most of the modules, is available for an annual fee. The modules can also be licensed individually so that the licensee can choose only needed modules.

Generic releases of the AASHTOWare Project modules are available to provide operational support and appropriate analysis reports in easy-to-understand formats. The generic approach provides an efficient and flexible computer-operating environment and user interface, with integrated tools for adding new or modified reports, extending the database with agency specific data, and conducting ad hoc analyses. The current releases offer significant capability to tailor AASHTOWare Project to each agency's individual needs, using system installation options, report templates, and generic fields in the database.

The web-based AASHTOWare Project modules of AASHTOWare Project Estimation, AASHTOWare Project Preconstruction, AASHTOWare Project Civil Rights & Labor, AASHTOWare Project Construction & Materials, and AASHTOWare Project Data Analytics are available in a web-based services architecture based on the Microsoft .NET platform. The modules support Microsoft's Active Directory (AD) and Lightweight Directory Access Protocol (LDAP).

Information on tested and supported platforms is available at <https://www.aashtowareproject.org/sys-arch>.

AASHTOWare Project Licensing Arrangements

AASHTOWare Project Estimator, AASHTOWare Project FieldNet, and the AASHTOWare Project FieldManager Suite

AASHTOWare Project Estimator and AASHTOWare Project FieldNet are proprietary software products of Info Tech, Inc., Gainesville, Florida. The AASHTOWare Project FieldManager suite (including AASHTOWare Project FieldManager, AASHTOWare Project FieldBook and AASHTOWare Project FieldBuilder) is a proprietary software product jointly owned by Info Tech, Inc. and the State of Michigan. The SYNC Service for AASHTOWare Project is a service owned by Info Tech, Inc. AASHTO and its licensees have been granted a license to use the AASHTOWare Project Estimator, AASHTOWare Project FieldManager, and AASHTOWare Project FieldNet software as well as the SYNC Service for AASHTOWare Project by an agreement with Info Tech, Inc. AASHTO Member Departments and Associate Members wishing to use these products or service must license them from AASHTO and abide by the terms and conditions granted by this license agreement, which is incorporated by reference into the AASHTO licensing agreement(s). A copy of the AASHTO–Info Tech agreements will be provided to any requesting member or associate member agency.

Local Government

The pricing of licenses to local government entities is the same as for AASHTO members. Note: The AASHTOWare Project BAMS/DSS module is available only to AASHTO Members and Associate Members. Local government transportation agencies must license the AASHTOWare Project FieldManager suite, AASHTOWare Project FieldNet, and the SYNC Service for AASHTOWare Project, through Info Tech, and all other AASHTOWare Project modules through AASHTO. Info Tech, Inc. can be reached at:

Info Tech, Inc.
2970 SW 50th Terrace
Gainesville, FL 32608
Phone: (352) 381-4400
Fax: (352) 381-4444
www.infotechfl.com/ordering.php
Attn: Mr. Terry Sullivan

Use at Multiple Installations

An agency obtaining one license for AASHTOWare Project BAMS/DSS, AASHTOWare Project Cost Estimation, AASHTOWare Project Construction Administration, AASHTOWare Project SiteManager, AASHTOWare Project Expedite, AASHTOWare Project Estimation, AASHTOWare Project Bids, AASHTOWare Project Preconstruction, PES/LAS, AASHTOWare Project Civil Rights & Labor, AASHTOWare Project Construction & Materials, or AASHTOWare Project Data Analytics may install servers at multiple locations and run the applications completely independent of other regions/districts of the agency. However, AASHTO will send software releases to only one location, and all support service requests from the multiple unrelated locations/districts must be made through one agency location.

Current Annual Fees and Licensing Options

Fees vary depending upon the modules licensed. All of the modules are licensed on an annual license fee basis; however, some of the modules are also licensed annually on a per user basis. Costs associated with installation, implementation and training are the licensees' responsibility, and may be negotiated directly with the appropriate AASHTO contractor. Service units (described below) may be purchased from AASHTO to cover installation, implementation and training costs associated with AASHTOWare Project.

AASHTOWare Project Site License

An annual Site License is available to any agency/organization desiring to license all the following AASHTOWare Project modules: AASHTOWare Project Cost Estimation, AASHTOWare Project Estimation, PES/LAS, AASHTOWare Project Preconstruction, AASHTOWare Project Construction Administration, either AASHTOWare Project BAMS/DSS or AASHTOWare Project Data Analytics, AASHTOWare Project Civil Rights & Labor, AASHTOWare Project SiteManager, AASHTOWare Project SiteXchange, AASHTOWare Project Bids, AASHTOWare Project Construction & Materials, and the AASHTOWare Project Worksheet. The AASHTOWare Project Estimator and AASHTOWare Project FieldNet modules, as well as the AASHTOWare Project FieldManager Suite, are NOT included in this Site License. SYNC Service for AASHTOWare Project is also NOT included in this Site License.

Description	Annual License Fee
AASHTOWare Project Site License Unlimited use	\$514,000

Note: The AASHTOWare Project BAMS/DSS and the AASHTOWare Project Data Analytics modules are available only to AASHTO Members and Associate Members.

Annual License Fees by Module

Annual fees for the AASHTOWare Project BAMS/DSS or AASHTOWare Project Data Analytics, AASHTOWare Project Cost Estimation, PES/LAS or AASHTOWare Project Preconstruction, AASHTOWare Project Construction Administration, AASHTOWare Project Construction & Materials, or AASHTOWare Project Bids, AASHTOWare Project Estimation, AASHTOWare Project SiteManager, AASHTOWare Project SiteXchange, AASHTOWare Project Worksheet and AASHTOWare Project Civil Rights & Labor modules are as follows:

Modules	Annual License Fee ⁵	Other Suggested Modules
BAMS/DSS ^{® 1,11}	\$83,500	
Data Analytics ¹	\$74,000	Preconstruction, Estimation
Cost Estimation ^{4,10}	\$63,500	BAMS/DSS or Data Analytics
PES/LAS ^{2,3,4,10}	\$51,000	BAMS/DSS or Data Analytics
Construction Administration ¹⁰	\$63,500	PES/LAS or Preconstruction and BAMS/DSS or Data Analytics
Construction & Materials ⁸	\$224,000	
Estimation ^{7,9}	\$51,000	Preconstruction, Data Analytics
SiteManager ^{®4,10}	\$249,000	
SiteXchange	\$21,500	SiteManager
Preconstruction ^{3,6}	\$51,000	Data Analytics
Civil Rights & Labor ⁷	\$51,000	Preconstruction
Bids	\$21,500	

Note:

1. AASHTOWare Project BAMS/DSS and AASHTOWare Project Data Analytics modules are available to AASHTO Members and Associate Members only. There is no additional fee for the BAMS/DSS Workstation option.
2. Due to the complementary nature of PES and LAS, these modules must be licensed together.
3. Project Worksheet is available at no additional cost with a license of PES/LAS or Preconstruction. Agencies may provide copies for consultant and contractor usage. However, the agencies are responsible for: 1) distributing copies of Project Worksheet software including copying and distributing user documentation as needed to contractors and/or consultants; 2) maintaining a list of contractors/consultants to whom the agency distributes the Project Worksheet software; 3) acting as the single point of contact for all contractor and/or consultant software support inquiries (Such inquiries may be forwarded by the agency to Info Tech for resolution back to the agency); and 4) protecting AASHTO's proprietary rights associated with the Project Worksheet software product.
4. The PES, LAS, Cost Estimation and SiteManager licenses are intended for use by all client implementations configured by the licensee to communicate to the corporate database server(s) under the direct technical and administrative control of the licensee.
5. If any individual module is to be initially installed during the license year, the module fee may be prorated for the remaining months in that licensing year only. (All subsequent licensing of previously installed modules is for the full year and will not be prorated for a partial year.)
6. If requested, Preconstruction may be obtained at no additional cost with the licensing of the PES/LAS.
7. Due to the nature of the software, Civil Rights & Labor and Estimation are only licensed with Preconstruction.
8. If requested, Construction & Materials may be obtained at no additional cost with the licensing of SiteManager or an extended license of FieldManager.
9. If requested, Estimation may be obtained at no additional costs with the licensing of Cost Estimation.
10. These modules are no longer available to new licensees.
11. Agencies with a paid license to AASHTOWare Project BAMS/DSS or an AASHTOWare Project Site License will be permitted access to the two Software-as-a-Service (SaaS) service themes released in August 2018 (includes features from Line Item Profiles and Bid Evaluation Analysis) in addition to the web-based AASHTOWare Project Data Analytics functionality developed up to and included in AASHTOWare Project 4.1.

Annual License Fees for Modules based on Copy Quantity

AASHTOWare Project Estimator

AASHTOWare Project Estimator has the following fee structure:

Description		Annual License Fee
AASHTOWare Project Estimator	1-15 Copies (each copy)	\$1,600
	16–20 Copies	\$25,500
	21–30 Copies	\$34,000
	31–40 Copies	\$41,500
	41–50 Copies	\$47,000
	51–60 Copies	\$52,000
	Site License*	\$57,500

Note: The above fees are annual fees. The total amount varies depending upon the number of workstations licensed. If AASHTOWare Project Estimator is installed on additional workstations during the license year, the annual fee for the additional workstations will be prorated for the remaining months of the license year (July 1–June 30). This proration applies only to the initial installation of AASHTOWare Project Estimator. These license fees include support and maintenance by Info Tech consistent with AASHTOWare products.

* Agencies holding a site license for AASHTOWare Project Estimator may, with no additional license fee, extend their site license to their local governments for projects in which federal money is involved and for which the agency has oversight responsibilities. This exception does not apply to consultants who are doing design work for the agency or to local governments that are doing their own non-federal projects. Consultants (and local agencies doing non-federal projects) must purchase their own AASHTOWare Project Estimator license at the special reduced license fee available on the Info Tech, Inc. website: www.infotechfl.com.

AASHTOWare Project FieldManager

Pricing for AASHTOWare Project FieldManager is calculated on either a “per copy” or “per site” license basis. AASHTOWare Project FieldManager has the following fee structure:

Description		Annual License Fee
AASHTOWare Project FieldManager suite (FieldManager® and FieldBuilder™ Components Only)	Each Installed Copy	\$3,750
	Each installed copy of FieldBook	\$1,150
Site License (All FieldManager Components)	Site License (1–15 users)	\$19,700
	Site License (16–30 users)	\$33,000
	Site License (31–50 users)	\$49,500
	Site License (51–300 users)	\$99,500
	Site License (301–800 users)	\$149,000
	Site License (more than 800 users)	\$199,000

Note: These AASHTOWare Project FieldManager Licenses are intended to cover only actual employees of the licensing agency. Consultants and other agencies (i.e., cities and counties) doing work for a licensing agency are not covered under this type of license agreement. Agencies wishing to cover (in addition to their own employees) consultants working directly under their control or local governments administering state-let, state-paid contracts should use the AASHTOWare Project FieldManager Extended License option detailed below (instead of this option).

AASHTOWare Project FieldManager Extended License

The AASHTOWare Project FieldManager Extended License is intended for member agencies wishing to cover not only their own employees, but also consultants working directly under their control (for example, as field inspectors) and/or local governments administering state-let, state-paid contracts under their license agreement. Agencies acquiring an Extended License may provide copies of the software to their consultant workforce and local governments, but are responsible for the following:

- Distributing copies of the AASHTOWare Project FieldManager software, including copying and distributing user documentation, as needed, to consultants and local agencies;
- Maintaining a list of consultants and local agencies to which the agency distributes the AASHTOWare Project FieldManager software (including any of its components);
- Acting as the single point of contact for all consultant and local agency software support inquiries. Inquiries that are clearly beyond the normal technical expertise of the agency may be forwarded by the agency to Info Tech for resolution back to the agency. In accordance with standard AASHTO policy, the agency will identify a maximum of four people authorized to contact Info Tech with support requests;
- Ensuring that FieldBuilder is not provided to anyone outside the state agency. Since the intent of this license is to allow performance of work on state-let, state-paid contracts only, consultants and local governments wishing to use AASHTOWare Project FieldManager (or any of its components) for accomplishing work on their own projects must purchase their own, separate licenses to do this; and
- Recovering all copies of the AASHTOWare Project FieldManager software and documentation from all consultants and local agencies whenever appropriate: for example, upon termination of service and/or consulting agreement under which the distribution of the software was initiated.

Member agencies have two options available to them to provide access to the AASHTOWare Project FieldManager software to their consultant work force (project managers, field inspectors, etc.) and/or their local government agencies administering state-let, state-paid contracts:

- Purchase this Extended License for the appropriate number of anticipated total users (state employees, consultant work force and local government employees); or,

- Continue to require their consultants and Locals to purchase their own copies of the software directly from Info Tech. In the latter case, technical and administrative support will be available from Info Tech.

The AASHTOWare Project FieldManager Extended License has the following fee structure:

Description		Annual License Fee
FieldManager suite (All FieldManager Components Except FieldBuilder)	Extended License (1–15 users)	\$30,500
	Extended License (16–30 users)	\$46,500
	Extended License (31–50 users)	\$70,500
	Extended License (51–300 users)	\$130,000
	Extended License (301–800 users)	\$190,500
	Extended License (more than 800 users)	\$249,000

AASHTOWare Project FieldNet

AASHTOWare Project FieldNet has the following fee structure:

Description		Annual License Fee
FieldNet	Site License (Up to 100 total users)	\$38,000
	Site License (101–500 users)	\$76,500
	Site License (501–600 users)	\$85,500
	Site License (601–750 users)	\$98,500
	Site License (751–900 users)	\$109,500
	Site License (901–1000 users)	\$115,000
	Site License (1,001 or more users)	\$154,000

SYNC Service for AASHTOWare Project

The SYNC Service for AASHTOWare Project that connects to Mobile Applications has the following fee structure:

Number of Connections to the SYNC Service	Annual License Fee
Up to 50 connections	\$15,000
Up to 100 connections	\$22,000
Up to 400 connections	\$44,000
Up to 800 connections	\$86,000
Unlimited connections	\$119,000

For each app on a user's device, agencies must license a connection to the SYNC Service for AASHTOWare Project. For example, if a user needs to connect three apps on the user's device to the SYNC Service, the agency must license three connections.

Evaluation License Option

First-time licensees of the SYNC Service for AASHTOWare Project may elect a no-cost, 90-day evaluation license.

First-time licensees of a production release module may elect a no-cost, 180-day evaluation or pay for a one-year evaluation license. The one-year evaluation license is good for 12 months from time of initial license at a license fee equal to the current license fees listed above. The AASHTOWare Project BAMS/DSS one-year evaluation license provides one Evaluation License Service Unit (ELSU). The one-year evaluation license option for AASHTOWare Project Preconstruction, AASHTOWare Project Civil Rights & Labor, AASHTOWare Project Construction & Materials, or AASHTOWare Project Estimation includes two Evaluation License Service Units of support (\$27,000 value) at no additional cost.

Evaluation License Service Units (ELSUs) are valid only for the one-year duration of the associated evaluation license. The licensee may use these ELSUs at its discretion to assist with installation, implementation and training activities during the evaluation period. Unused ELSUs units expire at the end of the one-year license period. AASHTO will no longer offer an evaluation license for AASHTOWare Project Cost Estimation, AASHTOWare Project Construction Administration or AASHTOWare Project SiteManager. Because of the expense involved in providing the no-cost service units associated with the one-year evaluation license, the standard Site License option for all AASHTOWare Project modules is not available in conjunction with an evaluation license. To continue licensing beyond the initial 12-month evaluation period, licensees would then pay a prorated annual license fee based on the number of months remaining in the current fiscal year in order to return to the normal AASHTO fiscal/licensing year of July 1–June 30.

Example: A request for a one-year evaluation license of AASHTOWare Project Preconstruction, AASHTOWare Project Civil Rights & Labor, AASHTOWare Project Data Analytics, AASHTOWare Project Construction & Materials, and AASHTOWare Project Estimation would result in the following fee:

Description		Annual License Fee
Modules	Data Analytics	\$74,000
	Preconstruction	\$51,000
	Civil Rights & Labor	\$51,000
	Construction & Materials	\$224,000
	Estimation	\$51,000
Total		\$451,000

Note: In the above one-year evaluation license example, nine Evaluation License Service Units are included (one for AASHTOWare Project Data Analytics, two for AASHTOWare Project Preconstruction, two for AASHTOWare Project Civil Rights & Labor, two for AASHTOWare Project Construction & Materials, and two for AASHTOWare Project Estimation) at no additional fee.

Service Units

For the period from July 1, 2020 through June 30, 2021, AASHTO has established an arrangement with its AASHTOWare Project contractor, Info Tech, Inc., to offer the opportunity for agencies to acquire special fixed-fee increments or units of contractor-provided service for consultation and support to assist an agency in implementing the AASHTOWare Project modules. During this period, an agency may commit to one or more units of service. The actual number of hours the contractor will expend for one unit may vary depending on the AASHTO billing level of the contractor staff involved and the location where the service is being provided. The number of Service Units remaining at the conclusion of a fiscal year will be carried forward into the next fiscal year, but could result in a difference in work accomplished as the AASHTO billing level is based on the year during which the work is performed.

Service Unit Work Plan Development

Service Unit Contractor (Info Tech) is an independent contractor and solely responsible for all aspects of the performance, delivery, quality, and terms and conditions of service they provide to agencies.

AASHTO SHALL NOT BE RESPONSIBLE AND DISCLAIMS ANY AND ALL LIABILITY FOR ANY DAMAGE OR LOSS WHATSOEVER, INCLUDING PERSONAL INJURY, DAMAGE TO PROPERTY, OR LOSS OF BUSINESS OPERATIONS, INFORMATION OR DATA, ARISING OUT OF OR RELATING TO ANY ACT OR OMISSION OF SERVICE UNIT CONTRACTORS, THEIR EMPLOYEES, AGENTS, AND SUBCONTRACTORS.

It is highly recommended that each agency review its service needs with the appropriate AASHTOWare Project contractor, develop a firm estimate of the number of units required and establish work plans and other terms and conditions of service, including the schedule for delivery, prior to submitting their commitment. Further, the AASHTOWare Project Task Force reserves the right to review work plans for Service Unit work to ensure conformance with the guidelines for their use.

This service is not a prerequisite to license AASHTOWare Project software, nor does it affect in any way the normal support, maintenance, and enhancement services provided under the AASHTO license agreement and normal fee structure for AASHTOWare Project. Choosing this special offering is strictly the prerogative of an agency. The intent of Service Units is to offer the opportunity for an agency to acquire special fixed-fee increments or units of contractor-provided service for consultation and support. AASHTO shall serve as facilitator only by accepting the commitment for such contractor-provided services, invoice and receive payment on behalf of the agency and forward the order and payment to the contractor for the appropriate number of units of services ordered.

Further, AASHTO assumes no responsibility or liability for any obligation of the Service Unit Contractor, including scheduling or delivery of such units of service. It shall remain the responsibility of the subscribing agency to schedule their individual unit(s) of service and establish any other terms and conditions directly with the contractor.

Service Unit Work Options

These services provide for consultation and support to assist the agency in the implementation of the AASHTOWare Project products and can include the following:

- Planning and conducting training events;
- Implementation planning;
- Technical assessment/technical planning;
- Application installation and configuration;
- Data mapping of current agency systems data to AASHTOWare Project (e.g., financial, pre-construction, materials management);
- Configuring of generic field windows;
- Configuring of custom templates/agency views (e.g., agency specific material test methods);
- Hosted Services;
- Interface development (e.g., from agency specific pre-construction systems and to agency specific financial management systems); and
- Conversion development to take data from existing agency systems and load into AASHTOWare Project (e.g., materials management data).

In general, Service Units should not be used for work involving major new software development by member agencies. Service Units may be converted to provide additional enhancement funding under the guidance of the Task Force. To ensure that ownership issues are resolved, significant development work related to AASHTOWare products and enhancement requests utilizing service units should be reviewed by the Task Force prior to the work

being performed. The use of Service Units to perform modifications that change AASHTO product source code must be reviewed and approved by the Task Force. Service units may not be used to provide reimbursement for travel expenses by agency personnel.

Fee for Service Units

Service Units can be ordered in unit increments of \$13,500 that cannot be prorated and shall be paid upon receipt of the invoice. This fee includes the AASHTO administrative costs. Each service unit provides \$12,200 in contractor services. For enhancement work requiring multiple service units, it may be better to consider the mechanism described in the Additional Funding for Development/Enhancement Items section.

Hosting Services

AASHTO is offering agencies the ability to purchase hosting services from AASHTO for AASHTOWare Project web based components only. AASHTO has contracted directly with its AASHTOWare Project contractor, Info Tech, Inc., to insure that Info Tech's hosting services meet or exceed security and industry standards. Hosting services that include client/server components can continue to be provided separately by Info Tech via AASHTOWare Project Service Units.

Definitions

Hosted Environment: Refers to the solution as a whole. The hosted environment includes the infrastructure, services, backups, monitoring, security, processes, and controls used to provide a secure and robust solution. Standard hosted environments are completely isolated and dedicated to a single agency.

Hosted Instance: Refers to a segment within the hosted environment identified by its functional purpose. Typical hosted instances are dev/test, training, reporting, and production. A hosted environment will contain one or more hosted instances. Each hosted instance is logically isolated from one another to varying degrees. For example, a dev/test instance and a training instance may share the same virtual servers, while a production instance never shares a virtual server with any other instance.

Ordering Process

Prior to selecting the hosting services option, an agency should review the hosting documents located in the Hosting Services section of the Status and Planning page on <https://www.aashtowareproject.org/>. The agency should verify with its governing body that the hosting agreements are acceptable. If there are any discrepancies then the agency should work with Info Tech to resolve these discrepancies.

After the agency has completed its review of agreements the agency will select the appropriate hosting options on the AASHTO order form. After AASHTO reviews and approves the order AASHTO will notify Info Tech via the End User Designee Report of the order. At this point, Info Tech will contact the agency to initiate the fulfillment of the order.

The first year of Hosting Services includes a one month startup required to build the environment and establish the VPN connection with the agency. The Agency will provide a suitable IP address range that will be used during the initial hosting setup. This is followed by a five-month testing period of the Dev/Test instance. Once testing has completed, the Production instance will be created and be ready for immediate use.

If the Agency desires any optional services, the Agency will be required to setup a Supplemental Activities agreement using AASHTO Service Units to accommodate Agency specific requests that are outside the Hosting Services agreement.

Hosting Services Provided

AASHTOWare Project Base Configuration

- The base configuration accommodates AASHTOWare Project Preconstruction, AASHTOWare Project Estimation, AASHTOWare Project CRL, and AASHTOWare Project Data Analytics.
- The base configuration includes the following instances of AASHTOWare Project:
 - Production Instance (1 Production site)
 - Dev/Test Instance (1 Dev site and 1 Test site)
 - Additional AASHTOWare Project installation for training purposes using the Dev/Test servers as desired.
 - Additional AASHTOWare Project installation for implementation purposes using the Dev/Test servers as desired.

AASHTOWare Project Base Configuration with Construction and Materials

- Adds two additional AASHTOWare Project App/UI servers in a load balanced configuration to the production instance.

Report Instance (with daily data refresh) Add-On Option

- Adds one (1) additional AASHTOWare Project installation for reporting purposes using an additional AASHTOWare Project App/UI server and database. Data is programmatically refreshed with data from production daily. This configuration is suggested for agencies who have heavy reporting requirements.

For more information regarding hosting of client/server components, please review the hosting documents located in the Hosting Services section of the Status and Planning page on <https://www.aashtowareproject.org/> or contact your Info Tech account manager.

Hosting Fees

Description		Annual License Fee
Base Configuration	The base configuration accommodates AASHTOWare Project Preconstruction, AASHTOWare Project Estimation, AASHTOWare Project CRL, and AASHTOWare Project Data Analytics. Instances included: <ul style="list-style-type: none">• Production Instance (1 Production site)• Dev/Test Instance (1 Dev site and 1 Test site)• Additional AASHTOWare Project installation for training purposes using the Dev/Test servers as desired.• Additional AASHTOWare Project installation for implementation purposes using the Dev/Test servers as desired.	\$180,000
Base Configuration with Construction and Materials	Adds two additional AASHTOWare Project App/UI servers in a load balanced configuration to the production instance.	\$210,000
Add-on Options	Reporting Instance: Adds one additional AASHTOWare Project installation for reporting purposes using an additional AASHTOWare Project App/UI server and database. Data is programmatically refreshed with data from production daily. This configuration is suggested for agencies who have heavy reporting requirements.	\$30,000

Additional Funding for Development/Enhancement Items

Funding for Enhancement Items

The AASHTOWare Project Task Force recognizes that some member agencies may desire certain additional development or may desire to accelerate development of an AASHTOWare Project optional component(s), and may be in a position to fund such development. In fact, the practice of individual and/or groups of member agencies funding specific development/enhancement work through AASHTO's contracts with its software service providers has long been an acceptable means of accomplishing such work.

Note: Agencies may transfer Service Units to fund additional enhancement items.

Process for Funding Additional Enhancements

Any agency or group of agencies that desire to fund enhancement work to one or more AASHTOWare Project modules that will not be addressed in our current work plan(s) should follow the process outlined below:

- Submit a request to the AASHTOWare Project Task Force describing the desired enhancement(s). This request should also indicate which member departments are considering or are prepared to fund the additional enhancement work, as well as an indication of how incorporating the desired enhancement will benefit the AASHTO community of users as a whole;
- If the desired enhancement is acceptable to the Task Force, the Task Force will direct the AASHTOWare Project Contractor to develop system requirements, cost estimate, i.e. work plan for the specific enhancement(s) and notify the requesting agency(ies) of the direction. If the desired enhancement is not accepted by the Task Force, the Task Force will provide the requesting agencies with their specific areas of concern.
- Based upon the work plan developed by the AASHTOWare Project Contractor, the requesting member agency or agencies will be notified of the total cost to accomplish the desired enhancement activity;
- The requesting agency or agencies should submit written funding commitment to AASHTO, attention AASHTOWare Project, Associate Project Director, along with instructions for billing, i.e. individual and address to send appropriate invoice(s); and
- Upon receipt of sufficient commitment(s) for funding, AASHTO will initiate the process to initiate a new contract or to approve and execute a contract modification to incorporate the approved enhancement activities.

AASHTOWARE **BRIDGE DESIGN**[™] AND AASHTOWARE **BRIDGE RATING**[™] SOFTWARE

Introduction

AASHTOWare Bridge Design and AASHTOWare Bridge Rating software products are comprehensive bridge design and load rating tools developed by AASHTO. For an agency's bridge inventory, the products store detailed bridge descriptions sufficient for structural analysis. AASHTOWare Bridge Design is the tool for assisting in the design of both superstructures and substructures in accordance with the AASHTO *LRFD Bridge Design Specifications*. AASHTOWare Bridge Rating is a tool for rating bridge superstructures in accordance with the AASHTO *Manual for Bridge Evaluation*, AASHTO *Standard Specifications for Highway Bridges*, and AASHTO *LRFD Bridge Design Specifications*. The two products share much of their user interface and database. When both products are licensed, a bridge can be designed using AASHTOWare Bridge Design and be immediately available to AASHTOWare Bridge Rating for load rating without re-entering and validating additional data. Refer to the detailed features and capabilities for each product below.

There are three primary components to the system: the user interface, the database and the analysis or computational engines. The database and user interface are capable of supporting a two or three-dimensional description of a bridge. Three-dimensional description is the basis for the 3-D modeling and analysis of special vehicle configurations. The computational engines support both line girder and 3-D analyses.

AASHTOWare Bridge Design and AASHTOWare Bridge Rating use a common database to allow an agency to store a detailed description of each bridge, which is independent of the analytical engine (including specification checking) and the user interface. The concept of storing generic bridge descriptions in a database is a powerful one with many user and agency benefits. Among the benefits are:

- Designing and rating a bridge using multiple analysis programs and specifications from the same description and input;
- 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; and
- Easily linking to other related software systems, including bridge management systems such as AASHTOWare Bridge Management.

AASHTOWare Bridge Design/AASHTOWare Bridge Rating Products and Project Functionality—Long Term

Long-term functionality changes include:

- Integrated advanced report writing combining data from all three AASHTOWare Bridge products. This functionality will be directed to AASHTOWare Bridge Rating users who wish to include certain types of AASHTOWare Bridge Management data in their reports. Some functional design work has been completed on this task, but further development has been put on hold based on higher priority of other user demands;
- Extension of AASHTOWare Bridge Design/AASHTOWare Bridge Rating security features to be compatible with new security features for AASHTOWare Bridge Management. This will include: a utility to assign access rights to users across all AASHTOWare Bridge within the same user interface; an integrated login so users have access to all permitted AASHTOWare Bridge functionality after just one login; and an integrated Bridge Explorer style front-end providing access to all relevant AASHTOWare Bridge Design, AASHTOWare Bridge Rating, and AASHTOWare Bridge Management functionality, compatible with the new AASHTOWare Bridge Management architectural direction;

- Additional automated design features through a new AASHTOWare Bridge Design Tool. The AASHTOWare Bridge Design Tool will be a separate application and will include steel plate girder sizing for steel multi-girder superstructures and automated strand design or reinforcement design for concrete multi-girder superstructures. Using a new streamlined interface, bridges will be planned, sized and designed with minimal input by the user. Completed designs will then be available for advanced analysis and specification checking and rating within the current AASHTOWare Bridge Design/AASHTOWare Bridge Rating platform;
- New frame analysis and rating features are being explored and are expected to be introduced over the upcoming years, including a generic finite element modeling approach; and
- Ongoing commitment to the advancement of the software platform to keep current with the latest technology provided by the Windows Technology Stack and Database Management Systems.

The AASHTOWare Bridge Design 7.0 and AASHTOWare Bridge Rating 7.0 released in FY2021 will mark the completion of the AASHTOWare Bridge Design/AASHTOWare Bridge Rating Modernization Project. Version 7.0 will be the first release of the modernized system. The modernized system significantly upgraded the core technology to a modern software architecture that fully utilizes current and future hardware, and the latest software development technologies. In addition to the modernized AASHTO analytical engine, the modernized system comes with an improved and simplified user interface that is easier to use for beginners without losing modelling flexibility and robustness for advanced users.

The AASHTOWare Bridge Design 6.8.4 and AASHTOWare Bridge Rating 6.8.4 released in FY2020 are the last release of the legacy system. Functionality enhancements and maintenance going forward will be incorporated into the modernized system. Support for the AASHTOWare Bridge Design 6.8.4, AASHTOWare Bridge Rating 6.8.4 and all earlier versions will cease effective June 30, 2022.

AASHTOWare Bridge Design—LRFD Bridge Design

AASHTOWare Bridge Design employs the same database and graphical user interface as AASHTOWare Bridge Rating, and has the same application program interface for third-party add-on modules. (See AASHTOWare Bridge Rating section on Architectural Support for Third-Party Customizations and Add-Ons.) AASHTOWare Bridge Design includes an LRFD analysis engine. This analysis engine supports the current analysis needs of the software and designers can run multiple analysis programs from one definition of a bridge.

A new design tool for prestressed concrete beams was released in 2016. The overall framework includes libraries of beam shapes, vehicles, materials, and the basic capabilities required to analyze and design a single prestressed concrete beam. A future release will add the capability to design all beams in a cross-section. The user can describe the overall bridge geometry (framing plan) that includes multiple prestressed concrete beams. This is the “System” definition in AASHTOWare Bridge Design and AASHTOWare Bridge Rating. The tool will compute live load distribution factors and both dead loads and live loads. The user specifies parameters, such as a range for the beam depth, and the tool will determine a strand pattern for either harped strands or debonded strands as specified that satisfies the AASHTO LRFD specification. The user is presented with one or more beam designs that satisfy the specification.

Bridge Configurations and Capabilities

Superstructure configurations and capabilities include:

- Simple spans, continuous spans, hinges (Steel and Reinforced Concrete);
- U.S. Customary and S.I. units;
- Girder-line and 3D-FEM analyses;
- Parallel and flared girder configurations;

- 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 debonded strands;
- Steel rolled beams (including cover plates);
- Steel built-up plate I-girders;
- Steel welded plate I-girders (including hybrid);
- Parallel, tapered, parabolic, and circular webs;
- Transverse and longitudinal stiffened;
- Frame structure simplified definition;
- 3-D analysis of steel and concrete multi-girder superstructures; and
- 3-D analysis of curved steel multi-girder superstructures.

Substructure capabilities include:

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

Design Review/Specification Checking Features

- LRFD specification checking with detailed computation reporting (for example, failed specification or resistance checks can be examined with equation and article references including inputs, output and conclusions);
- Design ratio graphs and summary reports;
- Wizards for simplifying the design of steel and prestressed concrete bridges; and
- AASHTO engine for LRFD design review/specification checking.

LRFD Design Capabilities

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

Common Database and User Interface

Since AASHTOWare Bridge Design and AASHTOWare Bridge Rating share the same database, all structural models built with AASHTOWare Bridge Design will automatically be available for analysis in AASHTOWare Bridge Rating.

Output Reporting Features

AASHTOWare Bridge Design provides a sophisticated set of output reports to help the designer understand the performance of a new bridge. A 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 as well as the specification text. A suite of X-Y plots shows moments, shears, deflections, and other valuable information.

Substructures

AASHTOWare Bridge Design for LRFD substructures was incorporated into the product line in April 2008 (release 6.0) and later incorporated into the AASHTOWare Bridge Design and Rating software as a standard feature in release 6.1. AASHTOWare Bridge Design substructure provides for the analysis and specification-checking for common pier types including wall, hammerhead and multi-column bents. If funding permits other substructure types, including abutments, may be added.

AASHTOWare Bridge Rating—Bridge Load Rating System

AASHTOWare Bridge Rating is AASHTOWare's product for bridge load rating, featuring state-of-the-art graphical tools to speed preparation of the data and application of the results. Using a newly developed AASHTO module as its analytical engine for load and resistance factor rating (LRFR), load factor rating (LFR) and allowable stress rating (ASR), Bridge Rating provides an integrated database where rating inputs and outputs can readily be stored, reviewed and re-used. Through this database and the application-independent user interface, a user may provide a 3-dimensional description of a bridge superstructure. This bridge data can then be used by a variety of line-girder, 2-D or 3-D analysis packages, permit/routing systems and other third-party produced applications.

Bridge Configurations and Capabilities

- Simple spans, continuous spans, hinges (Steel and Reinforced concrete);
- U.S. Customary and S.I. units;
- Girder-line and 3D-FEM analyses;
- Parallel and flared girder configurations;
- 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);
- Post-tensioned multi-cell box beams;
- Harped strands and debonded strands;
- Steel rolled beams (including cover plates);
- Steel built-up plate I-girders;
- Steel welded plate I-girders (including hybrid);
- Parallel, tapered, parabolic, and circular webs;
- Transverse and longitudinal stiffened;
- Frame structure simplified definition;
- Steel trusses and floor systems;
- Timber beams and decks;
- Corrugated metal decks; 3-D analysis of steel and concrete multi-girder superstructures; and
- 3-D analysis of curved steel multi-girder superstructures.

Load Rating Features

- Load rate various structure units within a bridge;
- Load rate various members within a structural unit;
- Rate a user-defined group of bridges;
- Input definition and rating of deteriorated sections;
- Review of rating history for groups of bridges and routing applications;

- AASHTO engine for LRFR/LFD/ASD rating;
- Load rate timber and corrugated metal decks;
- Load rate girder–floorbeam–stringer configurations;
- Load rate truss–floorbeam–stringer and floor-truss configurations;
- Permit rating with routine traffic in adjacent lane;
- A vehicle library capable of defining any number of wheels on any number of axles; and
- Rating of non-standard gage vehicles by loading a 3-D influence surface.

Bridge Load Rating and Permit Vehicle Analysis Database

Having all of its data in a standardized accessible form makes it economical to build powerful new features for management of the load rating process and for support of routine business activities such as policy development and overload permit application review. For example, bridges along a route can be placed into folders, where an entire route can be rated for a permit vehicle in a single step. Permit analysis includes sophisticated three-dimensional analysis to consider load effects due to a specific vehicle traveling along a user-defined path on a structure. AASHTOWare Bridge Rating complies with corporate database management standards by supporting the widely used Oracle and Microsoft SQL Server database managers, including their data sharing and security features.

A new rating tool was released in 2016. The tool added a new process to AASHTOWare Bridge Rating that is capable of very quickly computing load ratings. To the extent possible, data required for computing a load rating will be computed and preserved in advance of the request for a load rating. This process greatly reduces the amount of computations that must be performed to produce a load rating when one is requested. A majority of the computations will be performed in advance of the request, pre-computing the data necessary for computing a load rating. This technique implemented in the rating tool allows AASHTOWare Bridge Rating users to quickly compute load ratings based on a vehicle description and a list of bridges. The rating tool is not a permitting system. It will not select a 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 is a software interface for the rating tool that enables it to be called from other systems including permitting systems.

Graphical Features and Customizable Libraries

AASHTOWare Bridge Rating contains a host of features to make load rating as easy as possible. Libraries of standard and user-defined vehicles, loads, steel and pre-stressed shapes, load and resistance factors, materials, parapets, and other bridge 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 graphical schematic framing plan, elevation view, cross-section view, and other schematics provide feedback and make common types of errors apparent.

Import and Rating Features

As the successor to the Bridge Analysis and Rating Systems (BARS), AASHTOWare Bridge Rating can import existing BARS data files. Existing BRASS and BAR7 data files are also supported by the import feature.

AASHTOWare Bridge Rating provides flexure and shear ratings, computes dead loads and distribution factors if they are not manually input, and analyzes deteriorated sections. Data can be provided in either cross-section or schedule-based forms.

Architectural Support for Third-Party Customization and Add-ons

Since the structural model of a bridge in a database can be complex, AASHTOWare Bridge Design and Rating provides a simplified object model that ties the modules of the system together and makes the software open to expansion by sophisticated users and third-party developers. The AASHTOWare Bridge Design and Rating

.NET Application Program Interface makes it possible to access the system's data and functionality 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.

User Support

User support is provided for licensed AASHTOWare Bridge Design and AASHTOWare Bridge Rating users by telephone and on-line via the Internet. Support mechanisms include:

- **AASHTOWare Bridge Design and Rating Support Center**—Assists users and support staff in managing support requests. Users can view past requests and staff responses, and add new requests of their own;
- **AASHTOWare Bridge Design and AASHTOWare Bridge Rating Technical Notes**—Contains answers to frequently asked questions, announcements of changes, discussion of hardware requirements, and modeling considerations;
- **User Forum**—Allows users and developers to exchange comments and issues with other users, as well as members of the development and support staff;
- **Download**—Patches, updates, add-ins, and documentation are available on the product website; and
- **Web Site**—The AASHTOWare Bridge Design and Rating Technical Support web site at <https://www.aashtowarebridge.com> provides access to all the AASHTOWare Bridge Design and AASHTOWare Bridge Rating support information and links to related materials.

Agencies wishing to supplement the support hours available under its selected license may purchase Service Units to meet their forecasted support needs. This additional service is not a prerequisite for licensing the AASHTOWare Bridge Design-Rating software, nor does it affect in any way the normal support, maintenance, and enhancement services provided under the AASHTO license agreement and normal fee structure for the AASHTOWare Bridge Design-Rating software.

Hardware and Software Environments

For the latest supported configurations, please visit: <https://www.aashtowarebridge.com>.

Minimum Configuration

Hardware Requirements

Machine	Intel Core i7 processor or equivalent
Memory	32 GB or more for 64-bit OS
Video	1600x1200
Mouse	Microsoft® or compatible
Hard Disk	1 TB*

* Solid State Drive is recommended for 3D FEM analysis.

Software Requirements

Microsoft Windows®10

Database Support and Sunset Status

Database support for AASHTOWare Bridge Design or AASHTOWare Bridge Rating is coordinated with the availability of support that the industry vendors provide. This table will change as Oracle or Microsoft ceases support for any of the listed versions.

Platform	Version(s)	Status
Oracle	11g R2 (11.2)	Active
	12c R2 (12.2)	Active
	18c R3 (18.3)	Active
MS SQL Server*	2014 SP2	Active
MS SQL Server Express*	2014 SP2	Active

* Previous versions of SQL Server are not supported.

Current Annual Fees and Licensing Options

AASHTO offers a variety of licensing options to meet the unique needs of transportation agencies. Beyond the base software package, each license provides various features and service levels. For licensees who desire additional features and/or levels of service beyond those defined in the license, additional Service Units can be purchased separately.

New licensees are encouraged to secure database set-up support via the purchase of one Service Unit coincident with the first licensing cycle. Licensees can also purchase Service Units in order to provide consultation, training, and support to assist the licensee in the implementation of the AASHTOWare Bridge Design-Rating software. For additional information on Service Units, see the section on Service Units below.

AASHTOWare Bridge Design Single Workstation Option

This option includes the complete AASHTOWare Bridge Design software for designing (analysis and specification checking) steel, reinforced concrete and prestressed concrete superstructures on a standalone workstation. This option includes unlimited support. Use of the AASHTOWare Bridge database under this license is limited to a single user at a time working on the same machine where the database is installed. Prorated options are available for special research projects upon request.

Description	Annual License Fee
First License AASHTOWare Bridge Design Single Workstation Option	\$10,500
Subsequent AASHTOWare Bridge Design Single Workstation Option	\$9,000

Organizations licensing workstation versions of both AASHTOWare Bridge Rating and AASHTOWare Bridge Design may request to have their software delivered with a single-user interface which provides access to both products.

AASHTOWare Bridge Design Unlimited Option (AASHTO Member Agency)

This AASHTO member agency option includes the complete AASHTOWare Bridge Design software described above for use on an unlimited number of workstations within the agency or installed on a server for unlimited user access. This license includes unlimited support.

Description	Annual License Fee
AASHTOWare Bridge Design Unlimited Option (AASHTO Member Agency)	\$39,500

AASHTOWare Bridge Design Unlimited Option (Non-Member Organization)

This non-member organization option includes the complete AASHTOWare Bridge Design software described above for use on an unlimited number of workstations within the non-member organization or installed on a server for unlimited user access. This license includes unlimited support.

Description	Annual License Fee
AASHTOWare Bridge Design Unlimited Option (Non-Member Organization)	\$52,500

AASHTOWare Bridge Rating Single Workstation Option

This option includes the complete AASHTOWare Bridge Rating software for load rating steel, reinforced concrete, prestressed concrete and timber superstructures on a standalone workstation. This option includes unlimited support. Use of the AASHTOWare Bridge database under this license is limited to a single user at a time working on the same machine where the database is installed. For research, a prorated option may be available upon request.

Description	Annual License Fee
First License AASHTOWare Bridge Rating Single Workstation Option	\$10,500
Subsequent License AASHTOWare Bridge Rating Single Workstation Option	\$9,000

Organizations licensing workstation versions of both AASHTOWare Bridge Rating and AASHTOWare Bridge Design may request to have their software delivered with a single user interface which provides access to both products.

AASHTOWare Bridge Rating Unlimited Option (AASHTO Member Agency)

This AASHTO member agency option includes the complete AASHTOWare Bridge Rating software described above for use on an unlimited number of workstations within the agency or installed on a server for unlimited user access. This license includes unlimited support.

Description	Annual License Fee
AASHTOWare Bridge Rating Unlimited Option (AASHTO Member Agency)	\$39,500

AASHTOWare Bridge Rating Unlimited Option (Non-Member Organization)

This non-member organization option includes the complete AASHTOWare Bridge Rating software described above for use on an unlimited number of workstations within the non-member organization or installed on a server for unlimited user access. This license includes unlimited support.

Description	Annual License Fee
AASHTOWare Bridge Rating Unlimited Option (Non-Member Organization)	\$52,500

Special Consultant/Agency Option

Consulting engineering firms performing rating or design work, or other agencies working with and supplying information to/for a member agency holding a valid license to the AASHTOWare Bridge Design or AASHTOWare Bridge Rating Unlimited Option may obtain a single workstation copy of AASHTOWare Bridge Design or AASHTOWare Bridge Rating for a special license fee. Under this licensing option, the sponsoring member agency (holding the Unlimited Option license) must approve the consultant to license under their unlimited option license to perform work on bridges that are included in their unlimited license inventory. This special licensing option is also available to universities engaged in performing research on bridges in the unlimited licensing inventory of a sponsoring member agency holding a valid license to the AASHTOWare Bridge Design or AASHTOWare Bridge Rating Unlimited Option, provided such special license request is approved by the sponsoring agency. The system requires a database engine. Contractor support for this licensing option is limited to installation support. Application support for consultants licensing under this option is provided by the Unlimited Option sponsoring agency.

Description	Annual License Fee
AASHTOWare Bridge Rating Special Consultant Option	\$5,500 per workstation
AASHTOWare Bridge Design Special Consultant Option	\$5,500 per workstation

Organizations licensing workstation versions of both AASHTOWare Bridge Rating and AASHTOWare Bridge Design may request to have their software delivered with a single user interface which provides access to both products.

Agency Sponsored Consultant Licenses

A member agency who is a licensee of the AASHTOWare Bridge Design or AASHTOWare Bridge Rating Unlimited Option may purchase on behalf of consulting engineering firms performing rating or design work for the member agency or a local agency performing rating or design work for the member agency the following AASHTOWare Bridge Design or AASHTOWare Bridge Rating “10-packs”. The system requires a database engine and includes limited support by the member agency. Consulting firms or local agencies using this license option will be required to sign a software license agreement with AASHTO. Contractor support for this licensing option is limited to installation support. Application support for consultants licensing under this option is provided by the Agency Sponsored Consultant licensee purchasing the consultant’s license.

Description		Annual License Fee
AASHTOWare Bridge Design or AASHTOWare Bridge Rating	10 Copies	\$34,700
	20 Copies	\$63,000
	30+ Copies	\$94,500

Standalone Developer Option

This option is available to third-party developers, subject to AASHTOWare Bridge Task Force approval, who wish to create bridge software tools that would link to the AASHTOWare Bridge database and/or utilize the AASHTOWare Bridge Design/AASHTOWare Bridge Rating GUI. End users of third-party tools would be required to be a licensee of the AASHTO base system described above in order to use the third-party linkage. A third-party developer cannot distribute the AASHTO base system. Third-party developed software can be licensed, if desired, by the third-party developer independent of AASHTO.

The licensee of this product will be required to sign a non-disclosure agreement. Furthermore, any third-party application that links to the AASHTOWare Bridge Design-Rating API that also provides an ability to externally create, consume, and/or modify bridge models, must provide a mechanism to import bridge models developed using that application into AASHTOWare Bridge Design-Rating. Any third-party application which meets the aforementioned criteria must provide a mechanism to support data in both directions, to include data import from that application into AASHTOWare Bridge Design-Rating, even if the model was originally created in the third-party application. The provided mechanism must adhere to a data standard that can ensure the integrity and accuracy of the model. The license fee includes five hours of installation support.

Description	Annual License Fee
Annual Fee	\$2,000

Educational Option

This option exists for educational institutions within the jurisdictions of our Member Departments, and/or Associate Members to AASHTOWare Bridge Design or AASHTOWare Bridge Rating free of charge for use in the classroom. This option is *not* available to individuals and it is not to be used for research, graduate work or any other purpose.

The educational option license offers full functionality with the following limitations:

Maximum number of spans:	3
Maximum span length:	no limit
Maximum number of girders per structure:	10
Maximum number of bridges:	no limit

Note: A licensing agreement executed by the institution assuring compliance with the education and training limitation is necessary to exercise this option.

Consultant/Developer Extended Support

This option provides extended support services to consultants beyond those provided with their licensing option. This option also provides support for third-party developers who wish to create bridge software tools that would link to the AASHTOWare Bridge database and/or utilize the AASHTOWare Bridge Design/AASHTOWare Bridge Rating GUI. The extended support services are intended to provide consultation and support to consultants and/or assist third-party developers in the development and implementation of third-party applications, and may include the following types of activities:

- Specialized training, bridge modeling consultation and custom reporting;
- Assisting client/database server installation and configuration;
- Specialized training in the use of the AASHTOWare Bridge Design and Rating Application Program Interface;
- Software application architecture and system design;

- Performing software development tasks; and
- Troubleshooting and testing of third-party applications.

Description	License Fee
10 hours of contractor support services	\$2,100

AASHTOWare Bridge Design & Rating Licensing Arrangements

PGSuper Professional™

PGSuper Professional™ is a proprietary software product of BridgeSight Inc, South Lake Tahoe, California. AASHTO Member Departments and Associate Members wishing to use PGSuper Professional must license the software from AASHTO and abide by the terms and conditions granted by this license agreement, which is incorporated by reference into the AASHTO licensing agreement(s). A copy of the AASHTO-BridgeSight agreement will be provided to any requesting member or associate member agency.

PGSuper Professional models simple and continuous span conventional pre-tensioned precast/prestressed bridge girder structures. It designs, performs specification checks, and load rates in accordance with the AASHTO *LRFD Bridge Design Specifications*, the AASHTO *Manual for Bridge Evaluation* for LRFR Load Ratings, and DOT agency-specific criteria.

PGSuper Professional adds over a dozen enhancements to the basic PGSuper software including the ability to translate bridge models from PGSuper to the AASHTOWare Bridge Design & Rating database. Other powerful features include: the Girder Design Dashboard™, 3D model visualization, enhanced reporting, enhanced library management, data exchange with Microsoft Excel, DXF, LandXML, and ViaThor's VBent substructure design software. PGSuper Professional also adds exclusive section types including the PCI North East NEXT Beam, Florida I Beam, square-voided slab, and the Illinois IL Girder. Also, for ease of use, PGSuper Professional includes access to cloud-based configurations for a growing number of DOTs.

Compatibility with AASHTOWare Bridge Design and Rating

The BridgeSight PGSuper Professional AASHTO Bridge Data Exporter translates a detailed precast, pretensioned girder bridge superstructure model from PGSuper to the AASHTO Bridge database in seconds. Translated data includes the bridge geometry and framing information, concrete, reinforcing and prestressing materials, LRFD resistance factors, load case descriptions, dead and live loads, sidewalk definitions, allowable stress limits, prestress losses, live load distribution factors, and much more. After translation, bridges can be checked and load rated by AASHTOWare Bridge Design & Rating to provide a secondary method of calculation for verification as is recommended by Section 4.4 in the AASHTO *LRFD Bridge Design Specifications*.

Data translation is performed through the AASHTOWare Bridge products API, which is considered to be the safe, preferred method to write data into AASHTOWare Bridge Design & Rating. BridgeSight products are compatible with BrDR 7.0 but will no longer work with the legacy versions of the software. Contact BridgeSight for additional information.

Hardware Requirements

The minimum hardware requirements for PGSuper Professional are the same as for the AASHTOWare Bridge Rating-Design programs. A minimum video resolution of 1280x1024 (SXGA) is recommended.

Licensing Options

Description	Number of Support Contacts	Annual License Fee
Single User	1	\$1,500
Single Site	1–3	\$4,500
Single Site	5	\$5,500
Single Site	6 or more	\$1,000/Contact

A Single-User license allows one designated individual to use PGSuper Professional on up to two computers (typically, one desktop and one laptop computer). This person may also utilize support services and is entitled to product updates over the license duration.

Single-Site Licenses provide unlimited installations for an entire office located at a single physical address. Companies must purchase a Single-Site License for each office location separately. Single-Site License pricing is based on the number of contacts for support desired for that office. Support is made available to only those individuals on the Support Contact list. A list of Support Contacts is created at the time of software delivery and may be modified up to twice annually. Licensees are entitled to all product updates over the license duration.

BridgeLink Professional™

BridgeLink Professional™, a suite of bridge engineering software, is a proprietary product of BridgeSight Inc., South Lake Tahoe, California which interfaces with the AASHTOWare Bridge Design & Rating database for precast-prestressed girder bridges and provides additional features and tools to support bridge design and rating activities. BridgeLink contains the following software tools.

- PGSuper Professional™—a tool for precast-prestressed girder bridge design, analysis, and load rating
- PGSplice Professional™—a tool for precast-prestressed spliced girder bridge design, analysis, and load rating
- BEToolbox™—Bridge Engineering Toolbox utility programs
- TOGA™—TxDOT Optional Girder Analysis tool
- XBRate™—reinforced concrete cross beam load rating

Hardware Requirements

The minimum hardware requirements for BridgeLink Professional are the same as for the AASHTOWare Bridge Rating–Design programs. A minimum video resolution of 1280x1024 (SXGA) is recommended.

Licensing Options

Description	Number of Support Contacts	Annual License Fee
Single User	1	\$3,500
Single Site	1–3	\$10,000
Single Site	5	\$13,500
Single Site	6 or more	\$2,300/Contact

A Single-User license allows one designated individual to use PGSuper Professional on up to two computers (typically, one desktop and one laptop computer). This person may also utilize support services and is entitled to product updates over the license duration.

Single-Site Licenses provide unlimited installations for an entire office located at a single physical address. Companies must purchase a Single-Site License for each office location separately. Single-Site License pricing is

based on the number of contacts for support desired for that office. Support is made available to only those individuals on the Support Contact list. A list of Support Contacts is created at the time of software delivery and may be modified up to twice annually. Licensees are entitled to all product updates over the license duration.

Contact Information:

Additional information about PGSuper Professional and BridgeLink Professional can be found at <http://bridgesight.com> or by contacting:

Richard Pickings, P.E.
BridgeSight Inc.
P.O. Box 19172
South Lake Tahoe, CA 96151
mkting@bridgesight.com
(877) 441-0346

Service Units

For the period from July 1, 2020 through June 30, 2021, AASHTO has established an arrangement with its AASHTOWare Bridge Design and AASHTOWare Bridge Rating contractor, ProMiles Software Development Corporation, to offer the opportunity for agencies to acquire special fixed-fee increments or units of contractor-provided service for consultation and support to assist the licensee in expediting conversion to the current generic releases of AASHTOWare Bridge Design/AASHTOWare Bridge Rating or any related bridge load rating or bridge design needs using the software. During this period, an agency may commit to one or more units of service. The fee for each unit of service provides approximately 80 total hours of labor by a contractor employee preparing for, spending up to four days at the licensee site, and providing follow-up support, and includes all other direct and related travel expenses.

The actual number of hours may vary depending on the AASHTO billing level of the employees involved and whether or not any direct costs or travel costs are involved. Service Units remaining at the conclusion of a fiscal year will be carried forward into the next fiscal year. The number of Service Units carried forward will be adjusted to reflect the subsequent year's price per unit, but the dollar value of the licensee's Service Units available will remain the same.

Service Unit Work Plan Development

Service Unit Contractor (ProMiles Software Development Corporation) is an independent contractor and is solely responsible for all aspects of the performance, delivery, quality and terms and conditions of service they provide to agencies.

AASHTO SHALL NOT BE RESPONSIBLE AND DISCLAIMS ANY AND ALL LIABILITY FOR ANY DAMAGE OR LOSS WHATSOEVER, INCLUDING PERSONAL INJURY, DAMAGE TO PROPERTY, OR LOSS OF BUSINESS OPERATIONS, INFORMATION OR DATA, ARISING OUT OF OR RELATING TO ANY ACT OR OMISSION OF SERVICE UNIT CONTRACTORS, THEIR EMPLOYEES, AGENTS, AND SUBCONTRACTORS.

It is highly recommended that each agency review its service needs with the appropriate AASHTOWare Bridge Design/AASHTOWare Bridge Rating contractor, develop a firm estimate of the number of units required and establish work plans and other terms and conditions of service, including the schedule for delivery, prior to submitting their commitment. Further, the AASHTOWare Bridge Task Force reserves the right to review work plans for Service Unit work to ensure conformance with the guidelines for their use.

This service is not a pre-requisite to license AASHTOWare Bridge Design/AASHTOWare Bridge Rating, nor does it affect in any way the normal support, maintenance, and enhancement services provided under the AASHTO license agreement and normal fee structure for AASHTOWare Bridge Design/AASHTOWare Bridge Rating. Choosing this special offering is strictly the prerogative of an agency. The intent of Service Units is to offer the opportunity for an agency to acquire special fixed-fee increments or units of contractor-provided service for consultation and support. AASHTO shall serve as facilitator only by accepting the commitment for such contractor-provided services, invoice and receive payment on behalf of the agency and forward the order and payment to the contractor for the appropriate number of units of services ordered.

Further, AASHTO assumes no responsibility or liability for any obligation of Service Unit Contractors, including scheduling or delivery of such units of service. It shall remain the responsibility of the subscribing agency to schedule their individual unit(s) of service and establish any other terms and conditions directly with the contractor.

Service Unit Work Options

Service units are intended to provide consultation and support to assist the licensee in the implementation of the AASHTOWare Bridge Design/AASHTOWare Bridge Rating products, and may include the following types of activities, or work by the contractor:

- Updating prior releases of the AASHTOWare Bridge Design/AASHTOWare Bridge Rating database;
- Adding an analytical or specification engine to the AASHTOWare Bridge Design system;
- Adding new agency-specific features to the system; and
- Specialized training in the use of AASHTOWare Bridge Design or AASHTOWare Bridge Rating during a two-day workshop for up to 15 individuals.

Note: The contractor will provide the instructors and workshop materials and will work with the agency to set up the training (software installation, etc.) within reason. All travel related costs for the instructors are also included in the fee. The sponsoring agency shall provide the facilities, hardware and support for the training. The agency is also responsible for inviting the attendees and for their associated travel costs.

The examples listed above may require more than one service unit each, depending on specific agency requirements. Other work that can be performed using one or more service units includes addressing other database issues, performing software development tasks, developing custom reports, preparing and importing bridge data, performing regression testing on bridge data for new or existing features, or other AASHTOWare Bridge Design/AASHTOWare Bridge Rating-related work as needed by the agency.

In general, Service Units should not be used for work involving major new software development by member agencies. Service Units may be converted to provide additional enhancement funding under the guidance of the Task Force. To ensure that ownership issues are resolved, significant development work related to AASHTOWare products and enhancement requests utilizing service units should be reviewed by the Task Force prior to the work being performed. The use of Service Units to perform modifications that change AASHTO product source code must be reviewed and approved by the Task Force. Service units may not be used to provide reimbursement for travel expenses by agency personnel.

Fee for Service Units

This service is offered and can be ordered in unit increments of \$11,600, which cannot be prorated and shall be paid upon receipt of the invoice. This fee includes the AASHTO administrative costs. Each service unit provides \$10,000 in contractor services.

Additional Funding for Development/Enhancement Items

The AASHTOWare Bridge Task Force recognizes that some member agencies might desire certain additional development or may desire to accelerate development of an AASHTOWare Bridge Design/AASHTOWare Bridge Rating optional component(s), and may be in a position to fund such development. In fact, the practice of individual and/or groups of member agencies funding specific development/enhancement work through AASHTO's contracts with its software service providers has long been an acceptable means of accomplishing such work.

Process for Funding Additional Enhancements

Any member department, or group of member departments that desires to fund development/enhancement work for one or more AASHTOWare Bridge Design/AASHTOWare Bridge Rating modules that will not be addressed in our current work plan(s) should follow the process outlined below:

- Submit a request to the AASHTOWare Bridge Task Force describing the desired enhancement(s). This request should also indicate which member departments are considering or are prepared to fund the additional enhancement work, as well as an indication of how incorporating the desired enhancement will benefit the AASHTO community of users as a whole;
- If the desired enhancement is acceptable to the Task Force, the Task Force will direct the AASHTOWare Bridge Design/AASHTOWare Bridge Rating Contractor to develop system requirements, cost estimate, i.e., work plan for the specific enhancement(s) and notify the requesting agency(ies) of the direction. If the desired enhancement is not accepted by the Task Force, the Task Force will provide the requesting agencies with their specific areas of concern;
- Based upon the work plan developed by the AASHTOWare Bridge Design/AASHTOWare Bridge Rating Contractor, the requesting member agency or agencies will be notified of the total cost to accomplish the desired enhancement activity;
- The requesting agency or agencies should submit written funding commitment to AASHTO, attention AASHTOWare Bridge Project Manager, along with instructions for billing, i.e., individual and address to send appropriate invoice(s); and
- Upon receipt of sufficient commitment(s) for funding, AASHTO will initiate the process to initiate a new contract or to approve and execute a contract modification to incorporate the approved enhancement activities.

Introduction

The AASHTOWare Bridge Management software is a comprehensive asset management system developed to assist in the challenging task of bridge management. AASHTOWare Bridge Management stores bridge inventory and inspection data; formulates network-wide preservation and improvement plans for use in evaluating the needs of each bridge in a network; and makes recommendations for what projects to include in an agency's capital plan for deriving the maximum benefit from limited funds.

AASHTOWare Bridge Management

AASHTOWare Bridge Management supports the entire bridge management cycle, and is capable of maintenance tracking and federal reporting. The software integrates the objectives of public safety and risk reduction, user convenience, and preservation of investment to produce budgetary, maintenance, and program policies. It provides a systematic procedure for the allocation of resources to the preservation and improvement of the bridges in a network, by considering both the costs and benefits of maintenance policies versus investments in improvements or replacements.

AASHTOWare Bridge Management supports the collection of inspection data based on the AASHTO *Manual for Bridge Element Inspection*, and provides the user with a well-organized and intuitive user experience. The software continues to be improved and expanded with each release of AASHTOWare Bridge Management. The system consists of a set of modules, each of which is designed to provide the user with the informational display, options and actions relevant to the module's particular function.

The AASHTOWare Bridge Management framework is being expanded to support multi-asset data collection and storage. The current version of AASHTOWare Bridge Management includes capabilities to collect and report tunnel inspection data in addition to bridges.

Agencies licensing AASHTOWare Bridge Management in FY2021 will receive the latest version of AASHTOWare Bridge Management and subsequent versions that are released during the fiscal year.

As a web-based system, AASHTOWare Bridge Management supports asset management, inventory, and inspection data through a web server either hosted on an agency's intranet or internet connections or hosted remotely through an agreement with the AASHTOWare Bridge Management contractor (Mayvue). Selecting the local installation or the hosted, SaaS service, does not change the features or capabilities of the platform.

AASHTOWare Bridge Management provides a full suite of out-of-the-box reports designed specifically to support bridge management needs. Reporting is facilitated through Crystal Reports, which allows for new report development and customization of provided reports. With the purchase of each Agency's AASHTOWare Bridge Management software license, each Agency has a developer license to Crystal Reports 2013. To obtain a license, each Agency should send an email to the contractor and they will provide the license key.

Support for AASHTOWare Bridge Management release 5.2.1 and earlier ceased June 30, 2019.

Agencies interested in utilizing a SaaS solution should contact Mayvue for additional information.

AASHTOWare Bridge Management software licensees are able to purchase optional add-on modules to enhance the overall capabilities of the system. Add-on modules and hosting services may be ordered via AASHTO Hosting and Add-On (HAO) Service Units.

AASHTOWare Bridge Management supports Oracle and Microsoft SQL Server databases. Licensees should confirm support for specific versions or releases of these databases with Mayvue.

User Support

User support is provided for licensed AASHTOWare Bridge Management users through a variety of means, including phone, email and online. Support mechanisms include:

- **AASHTOWare Bridge Management Support Center**—Assists users and contractor staff in managing support requests. Users can view past requests/tickets and staff responses, add new requests of their own, and escalated help tickets if needed.
- **User Forum**—Allows users and developers to exchange comments and issues with other users, as well as members of the development and support staff.
- **Download**—Patches, updates, add-ins, and documentation are available on the product website.
- **Web Site**—The AASHTOWare Bridge Management web site at <https://www.aashtowarebridge.com> provides access to all the AASHTOWare Bridge Management support information, links to other AASHTOWare products, and AASHTOWare Bridge Management promotional material.

Agencies wishing to supplement the support hours available under its selected license may purchase Service Units to meet their forecasted support needs. This additional service is not a prerequisite for licensing the AASHTOWare Bridge Management software, nor does it affect in any way the normal support, maintenance, and enhancement services provided under the AASHTO license agreement and normal fee structure for the AASHTOWare Bridge Management software.

Hardware and Software Environments

For the latest supported configurations, please visit: <https://www.aashtowarebridge.com>.

Recommended Configuration—Workstation

Hardware Requirements	
Machine	Quad Core 3GHz
Memory	16 GB
Video	1920x1080, 32-bit color
Mouse	Microsoft® or compatible
Hard Disk	2 GB Free Space *
Disk Drives	DVD Drive

* Refers to the AASHTOWare Bridge Management install only.
Multimedia storage space will vary depending on client needs.

Software Requirements	
Windows 10 32-bit and 64-bit	
Microsoft® .NET Framework 4.5-4.7 is supported (previous versions not supported)	

Recommended Configuration—Enterprise

Hardware Requirements	
Machine	Eight Core 3GHz
Memory	32 GB
Video	1920x1080, 32-bit color
Mouse	Microsoft® or compatible
Hard Disk	2 GB Free Space*
Disk Drives	DVD
Fast Network	1 GB Network or Faster

* Refers to the AASHTOWare Bridge Management install only.
Multimedia storage space will vary depending on client needs.

Software Requirements
5.2.2—Microsoft Windows Server 2012 (64-bit) Standard Edition with Microsoft Internet Information Server (IIS) 7.0 or 7.5
Microsoft®.NET Framework 4.0 is supported (previous versions not supported)
5.2.3—Microsoft Windows Server 2012 (64-bit) Standard Edition with Microsoft Internet Information Server (IIS) 8.0
5.3—Microsoft Windows Server 2012 (64-bit) Standard Edition with Microsoft Internet Information Server (IIS) 8.0
6.X—Microsoft Windows Server 2016 (64-bit) Standard Edition with Microsoft Internet Information Server (IIS) 10

Database Support and Sunset Status

Database support for AASHTOWare Bridge Management is coordinated with the availability of support that the industry vendors provide. This table will change as Oracle or Microsoft ceases support for any of the listed versions.

Platform	Version(s)	Status
Oracle	12cR1 (12.1)	Active
	12cR2 (12.2)	Active
	18c (18.1)	Active
	19c (19.1)	Active
MS SQL Server	2012	Active
	2014	Active
	2016	Active
	2017	Active
MS SQL Server Express	2012	Active
	2014	Active
	2016	Active
	2017	Active

Current Annual Fees and Licensing Options

The option to deliver AASHTOWare Bridge Management software electronically is available to licensing agencies.

Super Site License

This license allows for use of the AASHTOWare Bridge Management software on an unlimited number of workstations in a single-tenant environment within the agency and permits the agency and their agents to use the software on specified structures within the bounds of the licensing agency’s inspection and management responsibilities. The price of the license is fixed regardless of the number of assets stored in/managed by the software. The software can be hosted locally, or for an additional fee, hosted by Mayvue. This license provides for one AASHTO member agency user to attend the annual user group meeting. The license includes unlimited support.

Super Site licensees can purchase Service Units in order to provide consultation, training, and support to assist the licensee in the implementation of the AASHTOWare Bridge Management software. For additional information on Service Units, see the section on Service Units below.

AASHTOWare Bridge Management Set-Up, Configuration and Training support is also available to Super Site licensees as a bundled service. For additional information on the Set-Up, Configuration and Training bundle, see section on Set-Up, Training, and Configuration below.

This license also allows the licensee to purchase Hosting and Add-On (HAO) Service Units in order to supplement their existing system with hosting services and/or advanced modules that may further enhance their AASHTOWare Bridge Management solution. For additional information on HAO Service Units, see the section on Hosting and Add-on Service Units below.

Note: AASHTO member agencies wishing to exercise this option will be required to register the names and contact information for all contractors/consultants using the AASHTOWare Bridge Management product(s) via their Site License and will be responsible for protecting AASHTO’s intellectual property rights to the AASHTOWare Bridge Management product by having each contractor execute the Contractor Agreement in the form specified in Appendix A of the Supplemental License Agreement, and providing a copy of the executed Contractor Agreement to AASHTO.

Description	Annual License Fee	Required Annual Hosting
Super Site License	\$50,000	N/A
SaaS Super Site License	\$50,000	20 HAO Service Units (\$60,000)

Asset Tiered License

This license allows for use of the AASHTOWare Bridge Management software on an unlimited number of workstations in a single-tenant environment within the agency and permits the agency to use the software on specified structures within the bounds of the licensing agency’s inspection and management responsibilities. The asset tier-based licensing price is based on the number of assets stored in/managed by the software. The Asset Tiered license is available only through the SaaS environment provided by Mayvue. One database instance is provided with the license. Additional instances can be purchased to meet the licensee’s needs. This license allows for the optional purchase of seats at the annual user group meeting. The license fee includes 10 hours of support per year. Additional support may be obtained via the purchase of AASHTOWare Bridge Management Service Units.

Asset Tier licensees can purchase Service Units in order to provide consultation, training and support to assist the licensee in the implementation of the AASHTOWare Bridge Management software. For additional information on Service Units, see the section on Service Units below.

AASHTOWare Bridge Management Set-Up, Configuration and Training support is also available to Asset Tier licensees as a bundled service. For additional information on the Set-Up, Configuration and Training bundle, see section on Set-Up, Training, and Configuration below.

This license also allows the licensee to purchase Hosting and Add-On (HAO) Service Units in order to supplement their existing system with hosting services and/or advanced modules that may further enhance their AASHTOWare Bridge Management solution. For additional information on HAO Service Units, see the section on Hosting and Add-On Service Units below.

Description	Annual License Fee	Required Annual Hosting
Asset Tier 1 Annual License (max. of 1,000 assets)	\$21,500	8.0 HAO Service Units (\$24,000)
Asset Tier 2 Annual License (max of 500 assets)	\$14,300	5.2 HAO Service Units (\$15,600)
Asset Tier 3 Annual License (max of 250 assets)	\$10,500	4.0 HAO Service Units (\$12,000)
Enhanced Asset Tier Support/ Users Group Attendance (optional)	\$3,100	

The enhanced support and users group offering is an optional add-on to any level of the local/small agency license. This add-on entitles the licensee to an additional 5 hours of support per year for a total of 15 hours. The add-on also provides for complimentary registration for one designated licensee to attend the annual users group meeting. Travel costs for the user group meetings held within North America are reimbursed by AASHTO.

Consultant License

This license allows consulting firms performing work within the jurisdictions of an AASHTO Member or Associate Member Agency to obtain a cloud-hosted instance of AASHTOWare Bridge Management for the purpose of performing testing, establishing calibrations, performing instruction/training, or conducting agency licensee support activities. This license allows consulting firms to gain experience in the use of AASHTOWare Bridge Management through hands-on exposure to the software. Consultants licensing this software will have access to all software interfaces necessary to exchange or use data from agencies currently licensing AASHTOWare Bridge Management (including APIs, database calls, and flat-files). This license cannot be used to perform production bridge management activities for a non AASHTOWare Bridge Management licensee. The AASHTOWare Bridge Management Consultant license is available only through a cloud-hosted environment established by Mayvue Solutions. The hosted environment is delivered with a sample database and the option for the licensee to subsequently populate the database according to their needs. The license fee includes 5 hours of support.

A Consultant licensee can purchase additional Service units in order to provide consultation, training, and support to assist the licensee in the implementation of the AASHTOWare Bridge Management software. For additional information on Service Units, see the section on Service Units.

This license allows the licensee to purchase Hosting and Add-On (HAO) Service Units in order to supplement their existing system with hosting services and/or advanced modules that may further enhance their AASHTOWare Bridge Management solution. For additional information on HAO Service Units, see the section on Hosting and Add-On Service Units.

Description	Annual License Fee	Required Annual Hosting
Consultant Annual License	\$10,000	6.0 HAO Service Units (\$18,000)

International License

For international organizations, this license allows for use of the AASHTOWare Bridge Management software on an unlimited number of workstations in a single-tenant database within the agency and permits the agency and their agents to use the software on specified structures within the bounds of the licensing agency's inspection and management responsibilities. The International is available only through the SaaS environment provided by Mayvue. This license does not provide for attendance at the annual user group meeting. The license fee includes ten hours of support per year. Additional support may be obtained via the purchase of Service Units.

Note: The instance of the AASHTOWare Bridge Management software will use English Customary Units and USA currency and date formats. Support is only provided during standard business days and times of U.S. companies.

An International licensee can purchase additional Service units in order to provide consultation, training, and support to assist the licensee in the implementation of the AASHTOWare Bridge Management software. For additional information on Service Units, see the section on Service Units.

This license allows the licensee to purchase Hosting and Add-On (HAO) Service Units in order to supplement their existing system with hosting services and/or advanced modules that may further enhance their AASHTOWare Bridge Management solution. For additional information on HAO Service Units, see the section on Hosting and Add-On Service Units.

Description	Annual License Fee	Required Annual Hosting
International Annual License	\$60,000	24 HAO Service Units (\$72,000)

Standalone Developer Option

This license is available to third party developers, subject to AASHTOWare Bridge Task Force approval, who wish to create bridge management software tools that would link to the AASHTOWare Bridge Management database and/or utilize the AASHTOWare Bridge Management web interface. The developer license cannot be used to support production asset management operations. Pricing of the Standalone Developer license is fixed regardless of the number of assets stored in/managed by the software. The software is only available in a locally hosted configuration.

The licensee of this product will be required to sign a non-disclosure agreement. Furthermore, any third-party application that links to the AASHTOWare Bridge Management API that also provides an ability to externally create, consume, and/or modify bridge data, must provide a mechanism to import bridge data developed using that application into AASHTOWare Bridge Management. Any third-party application which meets the aforementioned criteria must provide a mechanism to support data in both directions, to include data import from that application into AASHTOWare Bridge Management, even if the data was originally created in the third-party application. The provided mechanism must adhere to a data standard that can ensure the integrity and accuracy of the data. The license fee includes five hours of installation support.

Note: End users of third party tools would be required to be a licensee of the AASHTOWare Bridge Management software in order to use the third party linkage. A third party developer cannot distribute the AASHTO base system. Third party developed software can be licensed, if desired, by the third party developer independent of AASHTO. The licensee of this product will be required to sign a non-disclosure agreement.

This license allows the licensee to purchase additional Service units in order to provide consultation, training and support to assist the licensee in the implementation of the AASHTOWare Bridge Management software. For additional information on Service Units, see the section on Service Units.

This license does not allow the licensee to purchase Hosting and Add-On (HAO) Service Units.

Description	Annual License Fee
Annual Fee	\$2,000

Educational License

This option exists for educational institutions within the jurisdictions of our Member Departments, and/or Associate Members to AASHTOWare Bridge Management free of charge for use in the classroom. This option is *not* available to individuals and it is not to be used for research, graduate work or any other purpose.

Note: A licensing agreement executed by the institution assuring compliance with the education and training limitation is necessary to exercise this option.

Set-up, Configuration, and Training

Description	Fee
Setup, Configuration, and Training	\$92,800

For the period from July 1, 2020, through June 30, 2021, AASHTO has established a catalog option where agencies can purchase contractor-provided services for the AASHTOWare Bridge Management setup, configuration, and training with their annual Super Site license. This fixed price option can be purchased for \$92,800.

This service is not a prerequisite for licensing the AASHTOWare Bridge Management software, nor does it affect in any way the normal support, maintenance, and enhancement services provided under the AASHTO license agreement and normal fee structure for the AASHTOWare Bridge Management software.

The intent of this offer is to assist agencies in the proper setup, configuration, and training of its users to improve the overall experience, functionality, and agency-specific outputs of the AASHTOWare Bridge Management software. The AASHTOWare Bridge Task Force recognizes that the agencies may struggle to dedicate the necessary resources and time to complete these important setup and configuration steps, and as a result, agencies may not be fully realizing the usefulness, power, and value of the software. This offer will help agencies drive their project selection workflow using their own data and improve the usefulness of the AASHTOWare Bridge Management software.

High-Level Overview:

1. An initial two-day remote training focused on how the AASHTOWare Bridge Management Optimization functionality works.
2. A series of interactive webinars where Mayvue staff works closely with agency personnel to elicit configuration needs for various settings of screens within the AASHTOWare Bridge Management software including utility, benefits, actions, network policies, and lifecycle policies.
3. Mayvue staff completes the configured setup within the AASHTOWare Bridge Management software or coaches agency personnel through this process if the agency prefers.
4. Mayvue staff completes a deep dive into the agency's historical data and finds the curves which best matches the agency's experience/policies. This includes NBI Deterioration, Element Deterioration, and NBI Conversion.
5. Mayvue provides a printed report for the agency with a complete list of settings for each page of the software.
6. Mayvue supplies a portable set of XML files with all of the settings defined for the agency. This zipped file can be imported into the agency's database, saving significant time in the setup process.

7. If interested, Mayvue will assess all the agency's bridges for seismic criteria (e.g., peak ground acceleration) and load into the agency's database. This information can be used to create a seismic risk assessment.
8. Finally, Mayvue provides a three-day onsite training geared towards the agency's end users. During this training, Mayvue will instruct the users on how to use the software to perform daily functions.

Agencies interested in this offer should contact Mayvue for more information including a detailed work plan.

Service Units

For the period from July 1, 2020 through June 30, 2021, AASHTO has established an arrangement with its AASHTOWare Bridge Management contractor, Mayvue Solutions, to offer the opportunity for agencies to acquire special fixed-fee increments or units of contractor-provided service for consultation and support to assist the agency in expediting conversion to the current generic releases of AASHTOWare Bridge Management. During this period, an agency may commit to one or more units of service. The fee for each unit of service can be used to provide for items such as: labor costs, on-site training, follow-up support, and direct/travel expenses. The actual number of hours may vary depending on the AASHTO billing level of the employees involved. Service Units remaining at the conclusion of a fiscal year will be carried forward into the next fiscal year. The number of Service Units carried forward will be adjusted to reflect the subsequent year's price per unit, but the dollar value of the licensee's Service Units available will remain the same.

Service Unit Work Plan Development

The service unit contractor (Mayvue) is an independent contractor and is solely responsible for all aspects of the performance, delivery, quality and terms and conditions of service they provide to agencies.

AASHTO SHALL NOT BE RESPONSIBLE AND DISCLAIMS ANY AND ALL LIABILITY FOR ANY DAMAGE OR LOSS WHATSOEVER, INCLUDING PERSONAL INJURY, DAMAGE TO PROPERTY, OR LOSS OF BUSINESS OPERATIONS, INFORMATION OR DATA, ARISING OUT OF OR RELATING TO ANY ACT OR OMISSION OF SERVICE UNIT CONTRACTORS, THEIR EMPLOYEES, AGENTS, AND SUBCONTRACTORS.

It is highly recommended that each agency review its service needs with the appropriate AASHTOWare Bridge Management contractor, develop a firm estimate of the number of units required and establish work plans and other terms and conditions of service, including the schedule for delivery, prior to submitting their commitment. Further, the AASHTOWare Bridge Task Force reserves the right to review work plans for Service Unit work to ensure conformance with the guidelines for their use.

This service is not a pre-requisite to license AASHTOWare Bridge Management, nor does it affect in any way the normal support, maintenance, and enhancement services provided under the AASHTO license agreement and normal fee structure for AASHTOWare Bridge Management. Choosing this special offering is strictly the prerogative of an agency. The intent of Service Units is to offer the opportunity for an agency to acquire special fixed-fee increments or units of contractor-provided service for consultation and support. AASHTO shall serve as facilitator only by accepting the commitment for such contractor-provided services, invoice and receive payment on behalf of the agency and forward the order and payment to the contractor for the appropriate number of units of services ordered.

Further, AASHTO assumes no responsibility or liability for any obligation of Service Unit Contractors, including scheduling or delivery of such units of service. It shall remain the responsibility of the subscribing agency to schedule their individual unit(s) of service and establish any other terms and conditions directly with the contractor.

Service Unit Work Options

Service units are intended to provide consultation and support to assist the licensee in the implementation of the AASHTOWare Bridge Management products, and may include, but are not limited to, the following types of activities, or work by the contractor:

- Importing data into a single-user database;
- Adding agency-specific fields to the AASHTOWare Bridge Management database;
- Developing custom reports and/or forms;
- Migrating Elements to National Bridge Elements;
- Addressing database issues; and/or,
- Specialized training in the use of AASHTOWare Bridge Management.

In general, Service Units should not be used for work involving major new software development by member agencies. Service Units may be converted to provide additional enhancement funding under the guidance of the Task Force. To ensure that ownership issues are resolved, significant development work related to AASHTOWare products and enhancement requests utilizing service units should be reviewed by the Task Force prior to the work being performed. The use of Service Units to perform modifications that change AASHTO product source code must be reviewed and approved by the Task Force. Service units may not be used to provide reimbursement for travel expenses by agency personnel.

Fee for Service Units

This service is offered and can be ordered in unit increments of \$11,600, which cannot be prorated and shall be paid upon receipt of the invoice. This fee includes the AASHTO administrative costs. Each service unit provides \$10,000 in contractor services.

Hosting and Add-On (HAO) Service Units

For the period from July 1, 2020 through June 30, 2021, AASHTO has established an arrangement with its AASHTOWare Bridge Management contractor, Mayvue Solutions, to offer the opportunity for agencies to acquire special fixed-fee increments or units of contractor-provided services for hosting and optional add-on Mayvue modules, Hosting and Add-On (HAO) Service Units, for AASHTOWare Bridge Management. During this period, an agency may commit to one or more units of service. HAO Service Units remaining at the conclusion of a fiscal year will be carried forward into the next fiscal year. The number of HAO Service Units carried forward will be adjusted to reflect the subsequent year's price per unit, but the dollar value of the licensee's HAO Service Units available will remain the same.

HAO Service Unit Work Plan Development

The HAO service unit contractor (Mayvue) is an independent contractor and is solely responsible for all aspects of the performance, delivery, quality, and terms and conditions of service they provide to agencies.

AASHTO SHALL NOT BE RESPONSIBLE AND DISCLAIMS ANY AND ALL LIABILITY FOR ANY DAMAGE OR LOSS WHATSOEVER, INCLUDING PERSONAL INJURY, DAMAGE TO PROPERTY, OR LOSS OF BUSINESS OPERATIONS, INFORMATION OR DATA, ARISING OUT OF OR RELATING TO ANY ACT OR OMISSION OF SERVICE UNIT CONTRACTORS, THEIR EMPLOYEES, AGENTS, AND SUBCONTRACTORS.

It is highly recommended that each agency review its service needs with the appropriate AASHTOWare Bridge Management contractor, develop a firm estimate of the number of units required and establish work plans and other terms and conditions of service, including the schedule for delivery, prior to submitting their commitment.

Further, the AASHTOWare Bridge Task Force reserves the right to review work plans for Service Unit work to ensure conformance with the guidelines for their use.

This service is not a pre-requisite to license AASHTOWare Bridge Management, nor does it affect in any way the normal support, maintenance, and enhancement services provided under the AASHTO license agreement and normal fee structure for AASHTOWare Bridge Management. Choosing this special offering is strictly the prerogative of an agency. The intent of these special Hosting and Add-On Service Units is to offer the opportunity for an agency to acquire contractor-provided services and modules to improve the AASHTOWare Bridge Management experience and functionality. AASHTO shall serve as facilitator only by accepting the commitment for such contractor-provided services, invoice and receive payment on behalf of the agency and forward the order and payment to the contractor for the appropriate number of units of services ordered.

Further, AASHTO assumes no responsibility or liability for any obligation of Service Unit Contractors, including scheduling or delivery of such units of service. It shall remain the responsibility of the subscribing agency to schedule their individual unit(s) of service and establish any other terms and conditions directly with the contractor.

Hosting and Add-On Service Unit Options

These service units are intended to provide a means for allowing AASHTOWare Bridge Management licensees to supplement their existing system with hosting services and/or advanced inspection modules that may further enhance their AASHTOWare Bridge Management solution. These options can be tailored to meet an agency needs (including Oracle hosting, read/write database access, and any other needs that may be necessary for an Agency). Examples of possible options for usage include:

- Hosting and maintenance of AASHTOWare Bridge Management

Predefined Hosting Services (Included in “Required Annual Hosting” rates above):

- AWS Production Environment (EC2)
- 99.99 Percent Uptime Guarantee
- Production Site Upgrades Included
- Periodic Test Site Access (before upgrades)
- Unlimited Number of Users can Access
- Performance Monitoring by Mayvue
- Automatic Nightly Database Backups Retained for 90 Days
- Database Read/Write Access (SQL Server or Oracle)
- Data Encryption (both at rest and in transit)

Additional Hosting Services Available via HAO Service Units:

- Additional Security Requirements (GovCloud)
 - Support of Database Customizations (e.g., triggers)
 - External Database Connections
 - Multiple Failover Redundancy
 - Permanent Test Site Availability
 - Advanced Agency IT Involvement (e.g., security scans)
 - Development Environment Needed
- Purchase of approved plug-in modules for AASHTOWare Bridge Management content as it becomes available.

Fee for HAO Service Units

This service is offered and can be ordered in HAO unit increments of \$3,000, which cannot be prorated and shall be paid upon receipt of the invoice. This fee includes the AASHTO administrative costs. Each HAO service unit provides \$2,500 in contractor services.

Agencies interested in online hosting services should contact the contractor, Mayvue Solutions, for more information.

Additional Funding for Development/Enhancement Items

The AASHTOWare Bridge Task Force recognizes that some member agencies might desire certain additional development or may desire to accelerate development of an AASHTOWare Bridge Management optional component(s), and may be in a position to fund such development. In fact, the practice of individual and/or groups of member agencies funding specific development/enhancement work through AASHTO's contracts with its software service providers has long been an acceptable means of accomplishing such work.

Process for Funding Additional Enhancements

Any member department, or group of member departments that desires to fund development/enhancement work for one or more AASHTOWare Bridge Management modules that will not be addressed in our current work plan(s) should follow the process outlined below:

- Submit a request to the AASHTOWare Bridge Task Force describing the desired enhancement(s). This request should also indicate which member departments are considering or are prepared to fund the additional enhancement work, as well as an indication of how incorporating the desired enhancement will benefit the AASHTO community of users as a whole;
- If the desired enhancement is acceptable to the Task Force, the Task Force will direct the Contractor to develop system requirements, cost estimate, i.e., work plan for the specific enhancement(s) and notify the requesting agency(ies) of the direction. If the desired enhancement is not accepted by the Task Force: The Task Force will provide the requesting agencies with their specific areas of concern;
- Based upon the work plan developed by the AASHTOWare Bridge Management Contractor, the requesting member agency or agencies will be notified of the total cost to accomplish the desired enhancement activity;
- The requesting agency or agencies should submit written funding commitment to AASHTO, attention AASHTOWare Bridge Project Manager, along with instructions for billing, i.e., individual and address to send appropriate invoice(s); and
- Upon receipt of sufficient commitment(s) for funding, AASHTO will initiate the process to initiate a new contract or to approve and execute a contract modification to incorporate the approved enhancement activities.

Introduction

AASHTOWare Safety Analyst provides a set of software tools for use by state and local highway agencies for highway safety management. These tools can be used to develop programming for site-specific highway safety improvements following the process and procedures in the *Highway Safety Manual* (HSM).

AASHTOWare Safety Analyst incorporates the HSM safety management approaches into computerized analytical tools for guiding the decision-making process. Because it has a strong basis in cost-effectiveness analysis, AASHTOWare Safety Analyst can play an important role in prioritizing improvements so that highway agencies get the greatest possible safety benefit from each dollar spent in the name of safety.

AASHTOWare Safety Analyst Sunset Plan

- AASHTO intends to sunset AASHTOWare Safety Analyst on June 30, 2022. A number of factors led to the decision to sunset. The Safety Analyst software is now 18 years old and has reached the end of its technology lifecycle. That reality and the decreasing level of adoption and use by the state departments of transportation in recent years has made on-going development or product upgrade unsustainable.
- AASHTOWare will continue to provide support and maintenance through June 30, 2022, however no enhancements will be made to the software during the sunset period.
- Any member agency that continues to license Safety Analyst through the sunset period, may elect to receive the source code by executing a source code agreement after June 30, 2022.
- A new AASHTOWare Safety product is available for agencies wishing to consider an alternate solution in this business area. Please refer to the AASHTOWare Safety product description elsewhere in this catalog for more information.
- Additional information may be obtained by contacting Ryan Fragapane, AASHTO Associate Project Manager, at (202) 624-3632 or by e-mail at rfragapane@aaashto.org.

AASHTOWare Safety Analyst

AASHTOWare Safety Analyst integrates all parts of the highway safety management process into a single software package. AASHTOWare Safety Analyst includes five analysis modules:

1. **The Network Screening Module** identifies sites with potential for safety improvements. It includes an option to use a variety of severity levels and any crash attribute as screening criteria. Measures of effectiveness and statistical methodologies are used to provide a more reliable list of locations warranting further investigation.
2. **The Diagnosis and Countermeasure Selection Module** is used to diagnose the nature of safety problems at specific sites and assist users in selecting effective countermeasures to address those problems. It facilitates thorough diagnosis through basic collision diagramming and identification of significant crash patterns, and systematic countermeasure selection through site-specific diagnostic questions.
3. **The Economic Appraisal and Priority Ranking Module** performs an economic appraisal of countermeasures or alternative countermeasures for a specific site, an optimization of sites and countermeasures, and a priority ranking of alternative improvements. Optional benefit methodologies are provided to support requirements of the federal Highway Safety Improvement Program.
4. **The Countermeasure Evaluation Module** provides the capability to conduct before/after evaluations of implemented safety improvements. New statistical methods provide valuable feedback on the effectiveness of completed countermeasures for reporting and future planning.

5. **The Systemic Site Selection Module** is used to identify the most appropriate sites for implementation of a selected countermeasure. The module incorporates network screening procedures to identify sites with crash patterns that can be remedied by the countermeasure selected for implementation and then economic analysis procedures are used to identify the most cost effective locations to implement the countermeasure given a specified budget.

Safety Analyst also provides the capability to generate performance monitoring reports that enable the user to monitor the overall safety performance of an agency's highway network or any subset of the highway network. Performance monitoring reports provide results that document safety performance during specified years and can generate year-to-year comparisons in performance. Performance monitoring reports include standard descriptive statistics, such as crash frequencies and rates, as well other performance measures that highway agencies may wish to track in monitoring progress in implementing their statewide or regional safety plans.

Safety Analyst makes use of safety performance functions (SPFs) in many of its analytical methods and tools. Default SPFs are provided in Safety Analyst and automatically calibrated using an agency's data. Safety Analyst also provides the capability to input agency-specific SPFs in multiple functional forms for use in the analytical methods and tools. The software is currently being updated to provide the capability for SPFs to vary between geographical regions within an agency's geographical boundaries, where there is reason to believe that roads in those regions have inherently different safety performance. For example, users might want SPFs to differ among:

- highway agency districts or regions
- user-defined groups of counties
- regions with differing terrain
- regions with differing climate
- any other user-defined regions that vary substantively in safety performance

Data Requirements

The AASHTOWare Safety Analyst software tools require a linked database of roadway characteristics, traffic volume, and crash data at the site level. Many of the required data elements should be readily available to highway agencies as part of MIRE and MMUCC datasets. However, some effort to assemble and format the data may be needed. AASHTOWare Safety Analyst includes a data management tool to help users import and manage their data. While many additional data elements are desirable and may be evaluated, the minimum set of data elements, some of which are noted below, required to use AASHTOWare Safety Analyst are crash and traffic data and either roadway segment, intersection, or ramp data.

- **Crash Data:** crash location, date, collision type, severity, relationship to junction, maneuvers by involved vehicles (straight ahead/left turn/right turn/etc.)
- **Roadway Segment Characteristics Data:** segment number, segment location (mapped to crash locations), segment length (mi), area type (rural/urban), number of through traffic lanes (by direction of travel), median type (divided/undivided), access control (freeway/ non-freeway), two-way vs. one-way operation, traffic volume (AADT)
- **Intersection Characteristics Data:** intersection number, intersection location (mapped to crash locations), area type (rural/urban), number of intersection legs, type of intersection traffic control, major-road traffic volume (AADT), minor-road traffic volume (AADT)
- **Ramp Characteristics Data:** ramp number, ramp location (in a form that is linkable to crash locations), area type (rural/urban), ramp length (mi), ramp type (on-ramp/off-ramp/freeway-to-freeway ramp), ramp configuration (diamond/loop/directional), ramp traffic volume (AADT)

Hardware and Software Environments

Minimum Configuration (Client Workstation Only)

Hardware Requirements ¹		
Architecture ²	x86 (32-bit)	x86-64 (64-bit)
CPU	Operating system dependent	Operating system dependent
Memory	Operating system dependent	Operating system dependent
Video	1024 x 768, 16-bit color	1024 x 768, 16-bit color
Mouse	Microsoft or compatible	Microsoft or compatible
Hard Disk ³	10 GB	10 GB

Software Requirements	
Operating System ²	Windows 10 (32-bit or 64-bit) A Linux version of AASHTOWare Safety Analyst is available on request.
Browser	HTML browser, PDF viewer or RTF viewer required; CSV-capable spreadsheet program recommended.

Recommended Configuration (Standalone or Data Management Workstation)

Hardware Requirements ¹		
Architecture ²	x86 (32-bit)	x86-64 (64-bit)
CPU	Operating system dependent	Operating system dependent
Memory	2 GB	8 GB
Video	1280 x 1024, 32-bit color	1280 x 1024, 32-bit color
Mouse	Microsoft or compatible	Microsoft or compatible
Hard Disk ³	20 GB	20 GB

Software Requirements	
Operating System ²	Windows 10 (32-bit or 64-bit) A Linux version of AASHTOWare Safety Analyst is available on request.
Browser	HTML browser, PDF viewer or RTF viewer required; CSV-capable spreadsheet program recommended.

Database Server (optional, recommended for enterprise deployments)

Requirements
Any hardware, operating system, and an SQL-compliant database management system (DBMS) that supports the Java® Database Connectivity (JDBC) API. Fully tested DBMS include Oracle, Microsoft SQL Server, and Apache Derby.

Notes:

1. CPU and memory requirements vary by operating system. For Microsoft Windows operating systems, the minimum requirements recommended for the selected operating system will be sufficient to support the product in a minimum (Client-Only) configuration.

2. The software is limited to using 1 GB on 32-bit systems. For large data sets (in excess of 70,000 sites or 1 million crash records), a 64-bit operating system with 2 GB or more of memory may be required to perform data management, or to perform a single network screening analysis on all sites in the data set.
3. The value represents storage in addition to what is required by the operating system, and is required only if data sets are stored locally on the workstation. Storage requirements depend on the size of the inventory, traffic and crash data. A production data set of 25,000 roadways segments, 46,000 intersections, 1.4 million crashes and 9 years of traffic data requires less than 1.5 GB of disk space.

Current Annual Fees and Licensing Options

The license options include up to 24 hours in engineering support, minimal data management support via a monthly support webinar, and any software updates released during the fiscal year.

Single Workstation Option

This license allows installation and use of AASHTOWare Safety Analyst software on a single standalone workstation. Use of the software under this license is limited to one user at a time. The agency is not permitted to share the software, or access to the software and its data, with contractors/consultants employed by the agency, nor cities, counties, or regional agencies within the agency's jurisdiction. This license is not intended to restrict the storage of the data or location of the database, which is permitted to be on an agency network or server computer.

Description	Annual License Fee
Single Workstation Option	\$21,200

Site License

This license allows use of AASHTOWare Safety Analyst on an unlimited number of workstations within an agency, and permits contractors/consultants/universities operating on behalf of the member agency with a formal contract access to the software under Appendix A to the Master and Supplemental Agreements described in the policies and procedures section.

Note: AASHTO member agencies wishing to exercise this option will be required to register the names and contact information for all contractors/consultants using AASHTOWare Safety Analyst via their Site License and will be responsible for protecting AASHTO's intellectual property rights to the AASHTOWare Safety Analyst product by having each contractor execute the Contractor Agreement in the form specified in Appendix A of the Supplemental License Agreement, and providing a copy of the executed Contractor Agreement to AASHTO.

Description	Annual License Fee
Site License	\$37,200

AASHTOWARE **SAFETY** SEGMENT ANALYTICS, INTERSECTION ANALYTICS, AND TREND ANALYTICS

POWERED BY NUMETRIC

Introduction

AASHTOWare Safety is a Software as a Service (SaaS) platform specifically designed to meet the unique needs of state and local transportation agencies in the area of highway traffic safety management. The AASHTOWare Safety platform begins by ingesting, cleansing, and combining data to make it more meaningful and ready for analysis. The integrated Safety Data Warehouse that the platform is built upon, houses all the necessary data and translates it into language humans naturally understand, resulting in a refreshingly easy, intuitive search experience.

As defined by the Highway Safety Manual, there are six steps in the Roadway Highway Safety Management Process: 1) Network Screening, 2) Diagnosis, 3) Countermeasure Selection, 4) Economic Appraisal, 5) Project Prioritization, and 6) Safety Effectiveness Evaluation. By facilitating the data unification and manipulation process, the AASHTOWare Safety platform provides automated insights that allow agencies to make better decisions faster, with a higher degree of confidence.

The AASHTOWare Safety platform software consists of the following three (3) product offerings:

- AASHTOWare Safety Segment Analytics
- AASHTOWare Safety Intersection Analytics
- AASHTOWare Safety Trend Analytics

AASHTOWare Safety Segment Analytics

AASHTOWare Safety Segment Analytics is a cloud-based SaaS platform that connects to external databases to receive crash, vehicle and occupant data, roadway data, asset data, as well as any other data supplied by the licensing agency, to power a number of purpose-built applications. Agencies can customize various configurations (countermeasure logic, Crash Modification Factor (CMF) values, and various calculations) to meet their unique needs. AASHTOWare's Safety Segment Analytics provides analysis based on data for roadway segments.

AASHTOWare Safety Segment Analytics includes four modules:

1. **Crash Query:** The Crash Query application allows users to create custom queries to search crashes in a GIS interface. A number of search variables, including crash type, vehicle, occupant, roadway, or geographic criteria can be used to refine queries in natural-language search terms. Users can explore crash details, including recommended countermeasures, to help with crash mitigation. Crash Query can generate shareable PDF Crash Reports with the click of a button.
2. **Safety Analysis:** The Safety Analysis application allows users to conduct segment-specific analysis to see where crashes are occurring, and what countermeasures can be put in place to minimize crashes. Safety Analysis allows users to generate benefit-cost calculations in seconds with built-in service life and CMF values. Safety Analysis will also generate a shareable PDF Safety Report with the click of a button, complete with recommendations or specified treatments. Users can easily generate a Safety Report on every project and at every phase of the project.
3. **Network Screening:** The Network Screening application empowers users to rank their roadway network using Segments, and Sliding Window analyses by crashes, fatalities, crash ratio, crash rate, crashes per mile, equivalent property damage only (ePDO), or any other desired calculation, with just the click of a button.

Custom filters can be applied to refine the scope of your analysis, targeting regions, counties, cities, or even custom geographic areas. The module also allows filtering by contributing factors, or even potential countermeasures to help agencies to determine which roadways need the most attention. With the click of a button, users can generate a shareable Network Screening report to share this data with anyone internal or external to the users' agency.

4. **Safety Performance Functions (SPF) Manager:** The SPF Manager is key to understanding expected crash rates, which give agencies insight into how their roadways are performing. Agencies can use SPFs that they have already created to run their analysis. Alternatively, SPF Manager can create custom Safety Performance Functions for an agency. In addition to creating/saving SPFs, SPF Manager provides a history of the functions that can help provide analysis for how SPFs are performing.

Additionally, each application includes a connection to external data sources, as well as built-in data warehouse functionality, which enables the “joining” and transformation of various datasets that power AASHTOWare Safety Segment Analytics.

AASHTOWare Safety Intersection Analytics

The AASHTOWare Safety Intersection Analytics builds on the segment-level data made available under the applications included in AASHTOWare Safety Segment Analytics. With the addition of AASHTOWare Safety Intersection Analytics, each application can be configured to incorporate intersection data as well. This tool provides valuable insight into intersection related crashes, safety improvements, and network screening analyses.

The AASHTOWare Safety Intersection Analytics adds Intersection related data and analyses for the following four (4) modules:

1. **Crash Query:** With the addition of intersection data to Crash Query, users can query, explore, and generate intersection-related crash and vehicle level data, as well as generate crash summary and comparison reports with the click of a button.
2. **Safety Analysis:** Safety Analysis—Intersections allows users to conduct corridor analysis, which includes both segment, and intersection analysis. The intersection-specific analysis allows users to see what crashes are occurring, and what intersection-specific countermeasures can be put in place to minimize intersection crashes. Users can generate benefit-cost calculations in seconds with built-in service life and CMF values. Safety Analysis will also generate a shareable PDF Safety Report with the click of a button, complete with recommendations or specified treatments, which allows users to easily generate a Safety Report on every project and at every phase of the project.
3. **Network Screening:** Network Screening—Intersections empowers users to rank their roadway network Intersections by crashes, fatalities, crash ratio, crash rate, or any other desired calculation, with just the click of a button. Apply custom filters to refine the scope of your analysis, targeting regions, counties, cities, or even custom geographic areas. Filter by contributing factors, or even potential countermeasures to help your organization determine what intersections need the most attention. Generate a shareable Network Screening report with the click of a button, to share this data with anyone inside, or outside your organization.
4. **SPF Manager:** With SPF Manager—Intersections, agencies can use SPFs that they have already created to run their analysis. Alternatively, SPF Manager can create custom Safety Performance Functions for an agency. In addition to creating/saving SPFs, SPF Manager provides a history of the functions that can help provide analysis for how SPFs are performing. By providing Expected Crash Rates and Excess Crashes, intersection SPFs would improve the way intersections are understood and evaluated in Crash Query, Network Screening, and Safety Analysis.

AASHTOWare Safety Trend Analytics

The AASHTOWare Safety Trend Analytics allows users to create custom dashboards to visualize any element of their data in an easy-to-use, and easy-to-share format. Create secure dashboards to share within your organization, or publicly available dashboards to share data with the public through public portals, a public-facing URL allowing for open access to any desired Workbook, with no user limit, or authentication required.

AASHTOWare Safety Trend Analytics provides custom workbook creation and sharing through the following two (2) modules:

1. **Workbooks:** The workbooks application provides users with a full business intelligence platform. The Workbooks application utilizes the roadway, crash, and safety data present in the other AASHTOWare Safety offerings, allowing users to generate and share custom Workbooks to visualize their agencies roadway safety data. This robust data visualization platform can also be used to generate custom, exportable PDF reports to share data with internal, or external stakeholders.
2. **Public Portals:** The public portals feature of the Workbooks application allows agencies to share custom charts and workbooks through a public-facing URL. Agencies can use this tool to create custom dashboards and share data with key external stakeholders, or the public at-large.

User Support

All support for AASHTOWare Safety software is provided by through a partnering agreement between AASHTO and the owner and developer of the AASHTOWare Safety software platform, Numetric, Inc.

User Support is provided for licensed AASHTOWare Safety platform users through an in-app chat feature, which allows users to chat in real-time with support personnel during standard business hours.

Additional support is provided through various online help resources support.numetric.com and through email support@numetric.com.

Data Requirements

The AASHTOWare Safety platform utilizes data from various data sources, including crash, vehicle, occupant, and roadway data. Data from existing databases maintained by the agency is supplied to AASHTO's partner, Numetric, Inc. who will conduct Extract, Transform and Load (ETL) processes to cleanse, unify, and manage the data inputs for use in the AASHTOWare Safety platform.

Data varies from agency to agency, and available data will continue to evolve and expand. The data needs for the AASHTOWare Safety platform are divided into three general categories: Configuration data, required data, and supplemental data.

Configuration Data

The purchasing agency will be provided with a number of default data values, which can be customized to meet the specific needs of that agency. These configurable data points can be customized at any point:

- **Countermeasure Logic:** AASHTOWare Safety Segment Analytics analyzes crash data (manner of collision, road conditions, etc.) and asset data (signage, rumble strips, etc.) to recommend treatments that mitigate crashes based on the countermeasure logic. Countermeasure Logic is required for use of the Safety Analysis

application, and provides additional value to the Network Screening, and Crash Query applications.

- **CMF Values:** CMF values are used in conjunction with the various calculations to estimate the effectiveness of a particular safety treatment. CMF Values are required for the use of the Safety Analysis application.
- **Calculations:** AASHTOWare Safety utilizes various calculations throughout the analytics performed by the applications within the platform. Calculations are utilized in the Crash Query, Network Screening, and Safety Analysis applications.
- **Cost Defaults:** The cost defaults pertain to each type of crash severity. These cost defaults are critical when calculating the benefit and benefit cost equations across a segment of road or intersection, as well as various other calculations throughout the AASHTOWare Safety platform. The cost defaults are utilized in the Crash Query, Network Screening, and Safety Analysis applications.
- **Discount Rate:** The discount rate is applied to the benefit calculation to convert the costs and benefits at different points in time of the crashes into a single time dimension. The discount rate essentially denotes the change in money value across a time period.
- **Calibrated SPF Values:** Because SPFs are developed using data from specific locations at a specific period in time, it is necessary for each agency to provide state-specific, calibrated SPF values. SPF Values are used to calculate Crash Ratio in Network Screening - In the event that an agency cannot provide their calibrated SPF values, this calculation will not be provided in the Network Screening application.

Required Data

- **Crash Data:** Crash ID, Crash Date, Severity, Manner of Collision, Route ID, Milepoint, Latitude, Longitude, Number of Vehicles.
- **Segment Data:** Segment ID, Route ID, Route Direction, BMP, EMP, Segment Geometry. In order to run a segment analysis, AASHTOWare Safety uses a segment dataset provided by the agency.
- **AADT Data:** AADT, Route ID, BMP, EMP
- **Intersection Data:** Intersection ID, Route ID, BMP, EMP, Intersection Geometry. In order to run an intersection analysis, AASHTOWare Safety uses an intersection dataset provided by the agency.
- **Vehicle Data:** Crash ID

Supplemental Data

The AASHTOWare Safety platform is capable of supporting most other Vehicle, Roadway, or Model Inventory of Roadway Elements (MIRE) asset data that can be provided by the purchasing agency. Any additional data provided will provide further depth of analysis and additional filtering capabilities to the AASHTOWare Safety applications.

Hardware and Software Environments

The entire AASHTOWare Safety platform is delivered to end-users through a cloud-based web Software-as-a-Service (SaaS) application. Because the AASHTOWare Safety applications are cloud-based, hardware and software requirements are minimal, and the applications are not installed locally. All elements of the platform can be accessed from any computer with an up-to-date web browser, including the latest versions of Chrome, Firefox, Safari, and Edge.

Current Annual Fees and Licensing Options

Safety Groups

Annual License Fees are broken into Safety Groups. Safety Groups are determined by a combination of population and roadway miles as follows:

Safety Group #	State Agencies within Safety Group
Safety Group 1	Alaska, District of Columbia, Delaware, Hawaii, Maine, North Dakota, New Hampshire, Rhode Island, South Dakota, Vermont, Wyoming
Safety Group 2	Alabama, Arkansas, Arizona, Colorado, Connecticut, Georgia, Iowa, Idaho, Illinois, Indiana, Kansas, Kentucky, Louisiana, Massachusetts, Maryland, Michigan, Minnesota, Missouri, Mississippi, Montana, North Carolina, Nebraska, New Jersey, New Mexico, Nevada, Ohio, Oklahoma, Oregon, Pennsylvania, Puerto Rico, South Carolina, Tennessee, Utah, Virginia, Washington, Wisconsin, West Virginia
Safety Group 3	California, Florida, Texas, New York

Annual Fees

Group	Annual License Fee		
	AASHTOWare Safety Segment Analytics	AASHTOWare Safety Intersection Analytics	AASHTOWare Safety Trends Analytics
Safety Group 1	\$100,000	\$100,000	\$50,000
Safety Group 2	\$175,000	\$175,000	\$100,000
Safety Group 3	\$350,000	\$350,000	\$200,000

AASHTOWare Safety Segment Analytics

This license fee shown in the Annual Fee table allows the use of the AASHTOWare Safety Segment Analytics with an unlimited number of users within an agency, as well as access for any third-party contractors, consultants, or outside parties identified by the purchasing agency.

Purchase of AASHTOWare Safety Segment Analytics includes access to segment data in the following applications: Crash Query, Safety Analysis, Network Screening, and SPF Manager.

AASHTOWare Safety Intersection Analytics

This license fee shown in the Annual Fee table provides agencies who have already purchased AASHTOWare Safety Segment Analytics with the addition of intersection capabilities. As with Safety Segment Analytics, the purchase of Safety Intersections Analytics provides a license for an unlimited number of users within an agency, as well as access for third-party contractors, consultants, or outside parties identified by the purchasing agency.

AASHTOWare Safety Intersection Analytics provides additional intersection reporting, analysis, and querying for the following applications: Crash Query, Safety Analysis, Network Screening, and SPF Manager.

AASHTOWare Safety Trend Analytics

This license fee shown in the Annual Fee table provides agencies who have already purchased AASHTOWare Safety Segments Analytics with the addition of the Trend application. As with Safety Segment Analytics, Safety Trend Analytics provides access to an unlimited number of users within an agency, as well as access for third-party contractors, consultants, or outside parties identified by the purchasing agency. Additionally, Safety Trend Analytics allows for the creation of public-facing workbooks through the public portals feature, allowing the public sharing of custom workbooks.

AASHTOWare Safety Trend Analytics includes the following applications: Workbooks, Public Portals.

AASHTOWare Safety Segment Analytics 90-Day Test Drive

The AASHTOWare Safety Segment Analytics Test Drive allows for an evaluation period of 90 days, which includes a specified geographic region (a single city, county, or region), and limited crash history (6 months–2 years) to be utilized for evaluation purposes. The AASHTOWare Safety Segment Analytics Test Drive provides access to an unlimited number of users within an agency for evaluation purposes only.

The AASHTOWare Safety Segment Analytics Test Drive includes access to segment data in the following applications: Crash Query, Safety Analysis, Network Screening, and SPF Manager.

Description	Annual License Fee
Safety Segments Analytics 90-Day Test Drive	\$0.00

AASHTOWare Safety Implementation / Service Units

The Implementation and Service Unit partner (Numetric, Inc.) is an AASHTOWare partner, and solely responsible for all aspects of the performance, delivery, quality and terms and conditions of service they provide to agencies. AASHTO SHALL NOT BE RESPONSIBLE AND DISCLAIMS ANY AND ALL LIABILITY FOR ANY DAMAGE OR LOSS WHATSOEVER, INCLUDING PERSONAL INJURY, DAMAGE TO PROPERTY, OR LOSS OF BUSINESS OPERATIONS, INFORMATION OR DATA, ARISING OUT OF OR RELATING TO ANY ACT OR OMISSION OF IMPLEMENTATION UNIT AND SERVICE UNIT PARTNERS, THEIR EMPLOYEES, AGENTS AND SUBCONTRACTORS. For work OTHER THAN implementation, it is highly recommended that each agency review its service needs with the AASHTOWare Safety partner (Numetric, Inc.), develop a firm estimate of the number of Service Units required, and establish work plans and other terms and conditions of service, including the schedule for delivery, prior to submitting their commitment. Further, AASHTOWare reserves the right to review work plans for Implementation and Service Unit work to ensure conformance with the guidelines for their use.

The intent of AASHTOWare Implementation and Service Units is to offer the opportunity for an agency to acquire special fixed-fee increments or units of partner-provided service for consultation and support. AASHTO shall serve as facilitator only by accepting the commitment for such partner-provided services, invoice and receive payment on behalf of the agency and forward the order and payment to the partner for the appropriate number of AASHTOWare Implementation or Service Units ordered. Further, AASHTO assumes no responsibility or liability for any obligation of AASHTOWare Implementation and Service Unit providers, including scheduling or delivery of such units. It shall remain the responsibility of the subscribing agency to schedule their individual AASHTOWare Implementation or Service Unit(s) and establish any other terms and conditions directly with the partner.

Implementation Units are required in the first-year of licensing to address one-time costs associated with AASHTOWare Safety implementation. All AASHTOWare Safety modules, including Safety Segment Analytics, Safety Intersection Analytics, and Safety Trend Analytics, require the purchase of implementation units to cover the cost related to implementation activities.

Oversight of all AASHTOWare Safety implementation activities will be performed by a Numetric project manager, who will coordinate all related meetings, tasks, and schedules. Implementation activities also include data clean-up and connecting the agency's data sources, configuring the licensed applications, and providing end-user training. The project manager will conduct weekly meetings with the agency's project team to review the status of tasks, discuss design options, collect product feedback, and coordinate training. The implementation process ensures that agencies have an operational and functional set of applications that are correctly configured for each organization and a trained workforce to utilize the applications in their day-to-day operations.

An *estimated* number of AASHTOWare Implementation Units required is provided in the table below. *Please note:* Many factors can contribute to the level of effort required to successfully implement the software in an agency, and the cost and therefore the number of implementation units required, **may vary from the estimated number of units provided in the table below.** *Each agency should discuss implementation activities directly with Numetric and obtain a proposal for implementation prior to ordering any AASHTOWare Safety software, so that an appropriate number of implementation units can be ordered through AASHTO.*

Group	Estimated Implementation Units Required One-time 1st Year		
	AASHTOWare Safety Segment Analytics	AASHTOWare Safety Intersection Analytics	AASHTOWare Safety Trend Analytics
Safety Group 1	4	4	1
Safety Group 2	7	7	2
Safety Group 3	12	12	4

Fee for AASHTOWare Safety Implementation Units

The cost of implementation can be ordered in whole unit increments, each equal to \$25,000, which cannot be prorated and shall be paid upon receipt of the invoice. Many factors can contribute to the level of effort required to successfully implement the software in an agency, and the cost and the number of implementation units required, *may vary from the estimated number of units provided in the table above.* **Each agency should discuss implementation activities directly with Numetric and obtain a proposal for implementation prior to ordering any AASHTOWare Safety software, so that an appropriate number of implementation units can be ordered through AASHTO.**

Fee for AASHTOWare Safety Service Units

Service Units, intended for custom work, such as partnering to collect new datasets, or create processes for improving quality assurance, which go beyond than the initial implementation process. These are optional, and can be ordered in increments of \$10,000, which cannot be prorated and shall be paid upon receipt of the invoice.

Introduction

The 1993 AASHTO *Guide for the Design of Pavement Structures* (and previous versions) is one of the primary documents used by state highway agencies for designing new and rehabilitated pavements. The basis of this design has been the empirical equations developed from the AASHO Road Test. The AASHO Road Test was conducted from 1958 to 1960 using limited pavement sections and modest traffic levels as compared to those used today.

In 1996, to achieve a state-of-the-practice pavement design procedure, the AASHTO Joint Task Force on Pavements sponsored the development of a mechanistic-empirical design guide for new and rehabilitated pavements, through the National Cooperative Highway Research Program (NCHRP). In 2004, NCHRP 1-37A was completed and delivered a mechanistic-empirical pavement design guide and accompanying software.

The products developed under NCHRP 1-37A have provided advancements in pavement design practices and work is continuing under NCHRP, FHWA, and various state agencies.

AASHTOWare Pavement ME Design

AASHTOWare Pavement ME Design is the next generation of pavement design software, which builds upon the NCHRP mechanistic-empirical pavement design guide, and expands and improves the features of the original prototype computational software. AASHTOWare Pavement ME Design is a production-ready software tool to support the day-to-day operations of public and private pavement engineers.

It calculates pavement responses (stresses, strains, and deflections) based on traffic, climate, and materials parameters to predict the progression of key pavement distresses and smoothness loss over time for asphalt concrete (AC) and portland cement concrete (PCC) pavements. These outputs are the basis for checking the adequacy of a trial design. AASHTOWare Pavement ME Design is a powerful program that incorporates a user-friendly interface with several functional, stability, and performance enhancements, such as improved runtime, automatic update notification, an SI version, inclusion of highway capacity limits, climate data viewers and climate summaries, batch processing, multi-project editing, project compare tool, error checking for individual inputs and forms, provisions for sensitivity analysis, thickness optimization, ability to import backcalculation data, database functionality at enterprise and workstation level, a structural response query tool, and improved reporting.

For many pavement engineers, it is a paradigm shift away from a nomograph-based design to one based on engineering principles and mechanics. Instead of entering basic site and project information into an equation and getting an empirically based pavement design output, the engineer can use detailed traffic, materials and environmental information to assess the short and long-term performance of a pavement design using nationally and/or locally calibrated models.

This software is a comprehensive pavement design and analysis tool, capable of providing support and insights to highway decision-makers, academia and consultants. This state-of-the-practice tool represents the current advancements in pavement design. It also provides tools to optimize pavement designs based on given requirements allowing the user to evaluate and fine-tune the design. The database utility allows users to save final designs as well as individual input parameters such that these can subsequently be used for future designs, various distress and performance analyses, and for other management purposes.

AASHTOWare Pavement ME Design reflects a change in the methods and procedures engineers use to design pavement structures. It takes advantage of the advances in material mechanics, axle-load spectra and climate data for predicting pavement performance. While this software does not answer all of the challenges of pavement

design, it is a quantum leap forward from previous pavement design procedures and facilitates future development in pavement modeling and analysis.

Pavement ME Design Tools

Pavement ME Design includes several tools to assist the pavement engineer:

1. **DRIP** performs hydraulic design computations for the subsurface drainage analysis of pavements;
2. **XML Validator** checks for most of the errors present in the xml files. It can also check for recommended ranges for data values;
3. **MapME** creates ME Design project files (DGPX) seeded with geospatially-referenced information relevant to the analysis and design of your pavement;
4. **File and analysis APIs Tools** include JULEA and ICM;
5. **Calibration Assistance** helps with local calibration efforts so the user can determine whether there is any bias in the predictions; establish the cause of any bias if found through the calibration process; and optimize the calibration coefficient of the transfer function(s) for each distress to eliminate bias and minimize the standard error of the estimate;
6. **rePave Scoping Tool** provides guidance for deciding where and under what conditions to use existing pavement as part of roadway renewal projects; and
7. **Backcalculation Tool** generates backcalculation inputs from Falling Weight Deflectometer (FWD) files to the AASHTO Pavement ME Design software for rehabilitation design. The tool is capable of analyzing raw deflection data files from three FWD testing devices: Dynatest®, JILS and KUAB. The tool provides three major functions: pre-processing deflection data (including project segmentation), backcalculation, and post-processing of results to generate inputs for Pavement ME rehabilitation design. This tool uses the EVERCALC® algorithm for the iterative backcalculation process. This tool can also be licensed separately.

Hardware and Software Environments

System Requirements

Hardware Requirements	
Machine	Minimum: 1.9GHz clock speed processor Recommended: dual processor
Memory	Minimum: 2GB of RAM Recommended: 4GB RAM or more
Monitor	Monochrome or color (preferred) monitor with display adapter supported by Windows® Minimum: 1024 x 768; Recommended: 1600x1200
Video Card	VGA or higher resolution graphics card
Hard Disk	Minimum: 500 MB free hard disk space Recommended: 5GB free hard disk space (for project files).
Mouse	Microsoft or compatible mouse
Disk Drives	Optional
Printer	A printer supported by Windows® (optional)

Software Requirements	
Operating System (32 or 64-bit)	Windows 10
Database	MS SQL Server 2005+ Oracle 10g+
Browser	Internet Explorer 7.0+ Firefox 3.5+ Google Chrome
PDF Reader	Adobe Acrobat 10.0.1+
Spreadsheet	Excel 2003+
Library	Microsoft .NET Framework 4.5.1

Current Annual Fees and Licensing Options

AASHTOWare Pavement ME Design is available for license to agencies with membership or associate membership in AASHTO and to other entities located in the United States. Each licensee shall designate a primary contact person through whom all support and maintenance will be coordinated with the contractor support team.

Individual Workstation License

The individual workstation license allows only one user to use the software at a time. With this option, the computer operates in standalone mode. An agency can purchase multiple workstation licenses.

Description	Annual License Fee
Individual Workstation	\$7,000

Site License

A site license is based on the maximum number of concurrent users accessing the program through a single license server in the network. A site license requires a connection to a license server when installing the software.

A site license permits cities/counties, and contractors/consultants employed by the licensing agency access to the product on the Member Department's network.

Note: AASHTO member agencies wishing to exercise this option will be required to register the names and contact information for all contractors/consultants using AASHTOWare Pavement ME Design via their Site License and will be responsible for protecting AASHTO's intellectual property rights to the AASHTOWare Pavement ME Design product by having each contractor execute the Contractor Agreement in the form specified in Appendix A of the Supplemental License Agreement, and providing a copy of the executed Contractor Agreement to AASHTO.

Description	Annual License Fee
Site License—up to 9 concurrent users	\$28,000
Site License—up to 14 concurrent users	\$42,000
Site License—up to 20 concurrent users	\$55,900

Note: Purchasers of the Site License for up to 20 Concurrent Users will have an option to increase the number of concurrent users for \$2,500 each.

Backcalculation Tool

The Pavement ME Deflection Data Analysis and Backcalculation Tool is a standalone software program that can be used to generate backcalculation inputs from Falling Weight Deflectometer (FWD) files to the AASHTO Pavement ME Design software for rehabilitation design. The tool is capable of analyzing raw deflection data files from three FWD testing devices: Dynatest®, JILS and KUAB. The tool provides three major functions: pre-processing deflection data (including project segmentation), backcalculation, and post-processing of results to generate inputs for Pavement ME rehabilitation design. This tool uses the EVERCALC® algorithm for the iterative backcalculation process.

Although the tool is included with the Pavement ME Design software, it can also be licensed separately and used as a standalone single-user application. A training presentation is available at <http://me-design.com/MEDesign/Webinars.html>.

Description	Annual License Fee
Standalone Single-User Backcalculation Tool	\$1,250

There is no evaluation or educational version for the backcalculation tool.

International License

AASHTOWare Pavement ME Design is available for licensing to entities located outside the United States and that do not have membership in AASHTO. These international entities must license through Applied Research Associates, Inc. (ARA), ARA can be reached at:

Applied Research Associates, Inc.
100 Trade Centre Drive, Suite 200
Champaign, IL 61820
(217) 356-4500
Fax: (217) 356-3088
Shobhit Mundra (smundra@ara.com)

Educational Option

This is a no-cost workstation version of the AASHTOWare Pavement ME Design software that is modified for use by educational institutions within the jurisdictions of our Member Departments, and/or Associate Members for teaching purposes in the classroom only. This option is not available to individuals and it is not to be used for research, graduate work, or any other purpose. (An SI version is available for those institutions located within the jurisdictions of international AASHTO Member Departments.)

The no cost educational version differs from the full version as follows:

- Limited design types—new asphalt and concrete (JPCP and CRCP), AC/AC overlays, AC/JPCP overlays, unbonded PCC overlays;
- Limited analysis period: 30 years;
- Limited climate stations: 8 to 10 stations from around the country representing each climate zone;
- No batch mode and sensitivity analysis;
- Output reports (PDF and Excel) include the watermark text “Educational Version” and
- No access to intermediate output files.

Note: A licensing agreement executed by the institution assuring compliance with the education and training limitation is necessary to exercise the educational license option.

The license agreement is between the institution and AASHTO. Therefore, the educational version of the software is limited to one copy per institution and should be used in a computer lab environment, installed on computers owned by the institution. It should not be installed on individual personal student machines.

If the software is installed on multiple machines, the machines should be ghosted.

Only one copy of the educational software is licensed to each institution and the maximum number of seats per institution is limited to 25.

Service Units

For the period from July 1, 2020 through June 30, 2021, AASHTO has established an arrangement with the AASHTOWare Pavement ME Design contractor, ARA, to offer the opportunity for agencies to acquire special fixed-fee increments or units of contractor-provided service for consultation and support to assist the agency in preparing data and using AASHTOWare Pavement ME Design. During this period, an agency may commit to one or more units of service from ARA. The fee for each unit of service provides approximately 65 total hours of labor by the contractor. Related travel expenses for on-site tasks will be converted to equivalent service units. The actual number of hours may vary depending on the AASHTO billing level of the employees involved. Service Units remaining at the conclusion of a fiscal year will be carried forward into the next fiscal year. The number of Service Units carried forward will be adjusted to reflect the subsequent year's price per unit, but the dollar value of the licensee's Service Units available will remain the same.

Service Unit Work Plan Development

The service unit contractor (Applied Research Associates, Inc.) is an independent contractor and solely responsible for all aspects of the performance, delivery, quality and terms and conditions of service they provide to agencies. AASHTO SHALL NOT BE RESPONSIBLE AND DISCLAIMS ANY AND ALL LIABILITY FOR ANY DAMAGE OR LOSS WHATSOEVER, INCLUDING PERSONAL INJURY, DAMAGE TO PROPERTY, OR LOSS OF BUSINESS OPERATIONS, INFORMATION OR DATA, ARISING OUT OF OR RELATING TO ANY ACT OR OMISSION OF SERVICE UNIT CONTRACTORS, THEIR EMPLOYEES, AGENTS, AND SUBCONTRACTORS. It is highly recommended that each agency review its service needs with the AASHTOWare Pavement ME Design contractor, develop a firm estimate of the number of units required and establish work plans and other terms and conditions of service, including the schedule for delivery, prior to submitting their commitment. Further, the AASHTOWare Pavement ME Design Task Force reserves the right to review work plans for Service Unit work to ensure conformance with the guidelines for their use.

This service is not a pre-requisite to license AASHTOWare Pavement ME Design, nor does it affect in any way the support, maintenance and enhancement services provided under the AASHTO license agreement and license fee structure for AASHTOWare Pavement ME Design. Choosing this special offering is strictly the prerogative of the agency. The intent of Service Units is to offer the opportunity for an agency to acquire special fixed-fee increments or units of contractor-provided service for consultation and support. AASHTO shall serve as facilitator only by accepting the commitment for such contractor-provided services, invoicing and receiving payment on behalf of the agency and forwarding the order and payment to the contractor for the appropriate number of units of services ordered.

Further, AASHTO assumes no responsibility or liability for any obligation of Service Unit Contractors, including scheduling or delivery of such units of service. It shall remain the responsibility of the subscribing agency to schedule their individual unit(s) of service and establish any other terms and conditions directly with the contractor.

Service Unit Work Options

Service units are intended to provide consultation and support to assist the licensee in the implementation of the AASHTOWare Pavement ME Design and may include the following types of activities, or work by Applied Research Associates, Inc.

- Customization of the user interface including:
- Setting language preferences;
- Tool tip help;
- User defined field names;
- Local calibration settings;
- Input field locking; and
- Setting agency-specific default values and ranges;
- Loading user-defined weather data;
- Converting prior versions of user projects to AASHTOWare Pavement ME Design file formats;
- Creating custom batch reports; and
- Specialized training in the use of AASHTOWare Pavement ME Design.

Note: The contractor, ARA, will provide the instructors and workshop materials and will work with the agency to set up the training (software installation, etc.) within reason. All travel-related costs for the instructors are also included in the fee. The sponsoring agency shall provide the facilities, hardware and support for the training. The agency is also responsible for inviting the attendees and for their associated travel costs.

In general, Service Units should not be used for work involving major new software development by member agencies. Service Units may be converted to provide additional enhancement funding under the guidance of the Task Force. To ensure that ownership issues are resolved, significant development work related to AASHTOWare products and enhancement requests utilizing service units should be reviewed by the Task Force prior to the work being performed. The use of Service Units to perform modifications that change AASHTO product source code must be reviewed and approved by the Task Force. Service units may not be used to provide reimbursement for travel expenses by agency personnel.

Fee for Service Units

This service is offered and can be ordered in unit increments of \$13,500, which cannot be prorated and shall be paid upon receipt of the invoice. This fee includes the AASHTO administrative costs. Each service unit provides \$12,200 in ARA contractor services.

Additional Funding for Development/Enhancement Items

The AASHTOWare Pavement ME Design Task Force recognizes that some member agencies may desire certain additional development or may desire to accelerate development of an AASHTOWare Pavement ME Design optional component(s), and may be in a position to fund such development. In fact, the practice of individual and/or groups of member agencies funding specific development/enhancement work through AASHTO's contracts with its software service providers has long been an acceptable means of accomplishing such work.

Process for Funding Additional Enhancements

Any member department, or group of member departments that desires to fund development/enhancement work for one or more AASHTOWare Pavement ME Design modules that will not be addressed in current work plan(s) should follow the process outlined below:

- Submit a request to the AASHTOWare Pavement ME Design Task Force and Project Manager describing the desired enhancement(s). This request should also indicate which member departments are considering or are

prepared to fund the additional enhancement work, as well as an indication of how incorporating the desired enhancement will benefit the AASHTO community of users as a whole;

- If the desired enhancement is acceptable to the Task Force, the Task Force will direct the AASHTOWare Pavement ME Design Contractor to develop system requirements, cost estimate, and work plan for the specific enhancement(s) and notify the requesting agency(ies) of the direction. If the desired enhancement is not accepted by the Task Force, the Task Force will provide the requesting agencies with their specific areas of concern;
- Based upon the work plan developed by the AASHTOWare Pavement ME Design Contractor, the requesting member agency or agencies will be notified of the total cost to accomplish the desired enhancement activity;
- The requesting agency or agencies should submit written funding commitment to AASHTO, attention AASHTOWare Pavement ME Design Project Manager, along with instructions for billing, i.e., individual and address to send appropriate invoice(s); and
- Upon receipt of sufficient commitment(s) for funding, AASHTO will initiate the process to initiate a new contract or to approve and execute a contract modification to incorporate the approved enhancement activities.



The AASHTOWare technical service program has a rich history of serving its customers and being a leader in bringing the power of technology through automation to the public sector transportation industry.

As we look to the future, it is important that we build on this rich and robust tradition to create the next generation of technology solutions and continuously improve service to our customers. Our success is based on the commitment of hundreds of volunteers, in partnership with the private community, to produce quality products that meet the common needs of our customers. The challenges we face now and into the future are increasingly more complex than in the past. To ensure continued success as we establish our next generation of products and services, we will clearly focus on a mutually agreed upon set of principles and values to drive our strategic plan, vision, mission, goals and objectives.

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