

AASHTOWare BrM 6.5 Release Notes

Key Features and Enhancements

- Replaced *Analysis > LCCA* task with the LCCA Plans design that allows you to create, edit, manage, and compare LCCA plans for your most significant bridges.
- Added an Optimization Queue to the LCCA and network optimizers that allows you to queue multiple optimizations to run consecutively.

NOTE: These queues are independent from each other. LCCA and network optimizations can run at the same time.

- Added an option to the optimizer to allow you to recalculate the structure weight for each year of the optimization period.
- Added Utility without LCC type to rule builder in *Admin > Modeling Config > Network Policies* and *Admin > Modeling Config > LCCA Policy Rules* tasks.
- Added Action User Cost as an associated benefit groups option for actions on the *Admin > Modeling Config > Actions Defs* task.
- Added a User Cost section to the *Projects > Create/Edit Projects* tasks.
- Added UserCost context and example formulas to the *Admin > Modeling Config > Advanced Formulas* task.
- Added NBI Element Conversions report that shows how the conversion profiles are interacting with the inspection data.
- Added the Time in State report that shows how long bridges have been in their rating condition.

Bug Fixes and Miscellaneous Updates

- (**BRMSD-555**) Removed the *Inspection > Inventory > Agency Items* task from the upgrade scripts to ensure settings are not overwritten.
- (**BRMSD-3818**) Updated the *Programs > Program Planning* task to maintain the selected settings of the last optimization when you leave the page and return. Previously, the page reset to the default settings even when the same program/scenario was still selected.
- (**BRMSD-3984**) Removed the FORWARD_ELEMS_FOR_BLANK_INSP option from the upgrade script as it is no longer necessary for post-6.0 upgrades.
- (**BRMSD-4061**) Fixed a bug that caused all groups within a group to be hidden in the Visual Form Editor when the order of one of the groups is changed.
- (**BRMSD-4065**) Fixed a bug that displayed the health index incorrectly in the graphs of the *Admin > Modeling Config > Element Spec* task after updating an element's health index coefficients.
- (**BRMSD-4081**) Updated the DATETIME data type in user tables to have the necessary width of 10.
- (**BRMSD-4111**) Updated the fields on the *Admin > General Config > Data Dict* task to allow a maximum of 30 characters.



- (**BRMSD-4116**) Updated the Order field on the *Admin > General Config > Parameters* task to allow a value from 1 to 32767.
- (**BRMSD-4175**) Fixed a bug where inactive parameters were showing in dropdown fields on the *Tunnels > Tunnel Work Candidates* task.
- (**BRMSD-4463**) Fixed an error in the calculation and display of allocated funds on the *Programs > Funding Allocation* task.
- Removed code from the optimizer that pulled in externally frozen projects 20 years before the start year and caused deferment rules to be applied for externally frozen projects without the actions being reflected.
- Updated the "Indirect Cost" label to be "Additional Direct Cost" and the "Total Indirect Cost" label to be "Total Additional Direct Cost" on the *Admin > Modeling Config > Action Defs* task.
- Renamed the *Admin > Modeling Config > Preservation and Replacement Policy* task to *Admin > Modeling Config > LCCA Policy*.
- Updated the formulas that use `roadway.adt_total` on the *Admin > Modeling Config > Advanced Formulas* page to use the new Yearly ADT expression.

NOTE: `DISABLE_FORCE_DEF_BY_TABLE` must be turned off in the database script for the formula to update.

- Updated the "Flat Indirect Cost" option to be "Flat Additional Cost" in the Additional Direct Cost section of the *Admin > Modeling Config > Action Defs* task.
- Updated the Network Policy dropdown to display options in alphabetical order on the *Admin > Modeling Config > Network Policies* task.
- Removed unnecessary bullets from list trees throughout application.
- Updated Same Structure Different Work grid on the *Programs > Program Comparison* task to display Bridge ID instead of Bridge Structure Number.
- Fixed a bug that caused an error on the Condition (Good, Fair, Poor) graph on the *Programs > Executive Summary* task.
- Removed the `FORWARD_ELEMS_FOR_BLANK_INSP` option from the upgrade script.
- Fixed a bug that prevented duplicate headers to be saved, even after removing the duplication, on the *Manage Layouts* task.
- Made changes to and fixed bugs related to the way discount rate operates throughout BrM.
- Added a `Forecast.Min_NBI` function to Advanced Formulas to calculate the bridge's minimum NBI rating.
- Fixed a bug in the network optimizer where running an optimization with funding allocated projects in a program while having Respect Externally Frozen Projects turned off caused the optimization to fail.
- Removed the Val Attr1 and Val Attr2 Data Dict values from the upgrade scripts to ensure settings are not overwritten.
- Fixed a bug that prevented actions with minimum cost requirements or actions with a cost of 0 or less from being reconsidered by the program optimizer.
- Fixed a bug that caused advanced formulas in the Deterioration context to fail if they did not have parameters.
- Removed the Run on All Scenarios option on the *Programs > Program Planning* task.

- Fixed a bug that caused an error when selecting filter segments in the Edit Parameters dropdown on the *Programs > Scenario Explorer* task.
- Parameterized SQL queries to protect against SQL injection for *Analysis > LCCA*, *Tunnels > Tunnel Work Candidates*, *Admin > Modeling Config > Multi Asset Action Definitions*, and *Admin > Modeling Config > GCR Deterioration Profiles*.

