Bridge modeler miscellaneous topics

On this page:

Unlinking a parametric model

The bridge model should be developed using one of the parametric definitions of the Bridge menu. Users may then make manual changes using the Bridge > Update Linked Bridge Model > Convert to Unlinked Model option. This should only be done to finalize the bridge model, however, in that users will no longer have the advantages of parametric definition. Further, users may want to copy the file before converting to an unlinked model. Users will then have the option to revert to a previous version in case parametric changes are necessary. Please ensure that design done using the bridge modeler is not overwritten during linked model update.

Verify moving-load analysis using a static load case

A moving-load analysis envelopes the internal forces resulting from a series of possible truck locations.

Users may verify step-by-step and influence-based moving-load analysis results through a simple static load case. Static loads simulating truck positioning should induce maximum response for the parameter being observed. Static response should be equal to or slightly less than the moving-load results.

Multiple vehicles in a single lane

Users may model multiple vehicles acting simultaneously on a single lane by specifying a Special Vehicle on the General Vehicle Data form. This vehicle should be defined to include two vehicles separated by a fixed or variable distance. For example, two HL93 trucks would contain six axles, three for each vehicle.

Pinned condition for both abutment and bearings

Local instability will arise when both the abutment bearing and the abutment foundation spring are defined as pinned. To provide for rotational stiffness at the abutment, one of these two links should be fully fixed.

Mixed model introduction

A mixed model is a bridge system designed using both the bridge modeler and the conventional software interface. Mixed modeling may be necessary for irregular, specialty, or highly customized systems. The typical procedure entails building the model core using parametric features of the bridge modeler, then unlinking the model to incorporate elements for which templates are not provided.

Please see the mixed modeling article for more information.