

ACES Bridge Analysis System

FEATURES

GEOMETRY

- ❑ Templates are available for a large range of 2D/3D grillage and FE bridge decks as well as frames, culverts, tanks, silos, wingwalls, footings and box girders.
- ❑ Grillage models of 2D/3D Super-T beam grillages can be automatically generated.
- ❑ Includes an integrated module for determining fundamental frequencies and modes of vibration.
- ❑ An incremental girder launching module is available for straight or curved bridges.
- ❑ Beam, grillage and finite elements can be mixed in either 2D or 3D models.
- ❑ A large range of default values can be preset and saved for future use.
- ❑ Has a capacity of over 12,000 nodes and members and 6000 elements.

LOADINGS

- ❑ Standard vehicle and lane loads include AS5100, AUSTRROADS and NAASRA.
- ❑ Code-based lane loadings can be auto-generated.
- ❑ Up to five vehicles can be run along individual paths in any one load case.
- ❑ Horizontal, diagonal and circular vehicle paths can be defined.
- ❑ Vehicle loads can be moved horizontally along, and transversely across, the structure.
- ❑ Horizontal & transverse loads can be moved simultaneously with vertical loads
- ❑ Vehicle load factors can be applied to allow for multiple lane structures.
- ❑ Lane loads can act in the vertical, horizontal and transverse directions.
- ❑ User-defined vehicles can be easily created, saved to the database and run.
- ❑ Static loads include uniform, trapezoidal, concentrated, moment and settlements.
- ❑ Primary moment and axial force loadings for parasitic effects can be applied.

RESULTS

- ❑ Envelopes are easily created for full vehicle and lane load patterning.
- ❑ All load cases (including the loading for every vehicle position) can be interrogated for moment, shear, torsion, reaction and deflection.
- ❑ Maximum and minimum values can be viewed graphically or in tabular form.
- ❑ Reports can be quickly generated of maximum and minimum values of one vector with the corresponding values of the other, including vehicle load case numbers contributing to the maxima.
- ❑ Multiple normal or cumulative envelopes can be created and summed.
- ❑ All graphical diagrams and results tables are printable and save-able.
- ❑ Graphical diagrams can be zoomed, panned and scaled.
- ❑ Reports can be saved in spreadsheet-compatible format.