

# STRAP

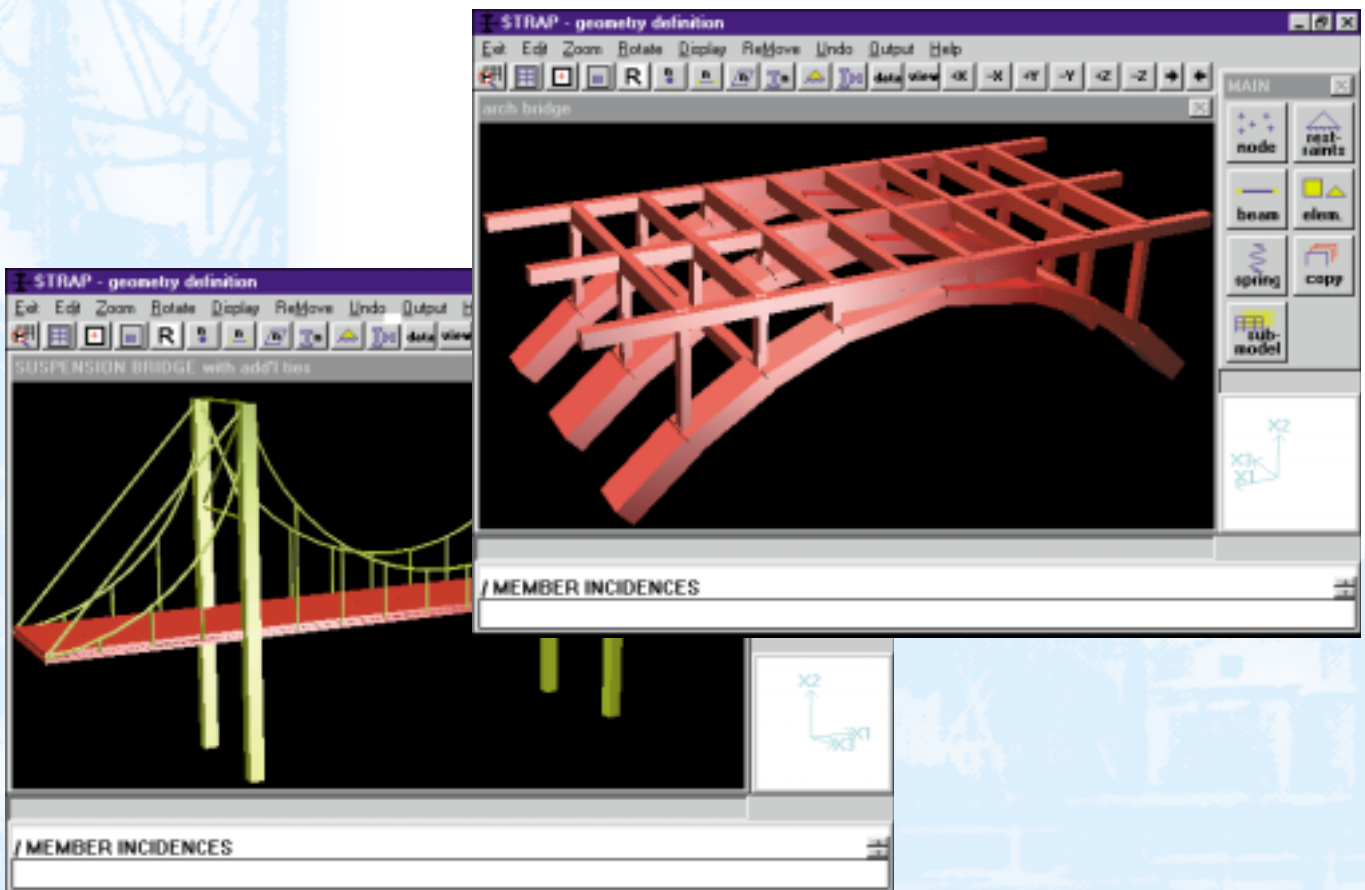
## AutoBridge

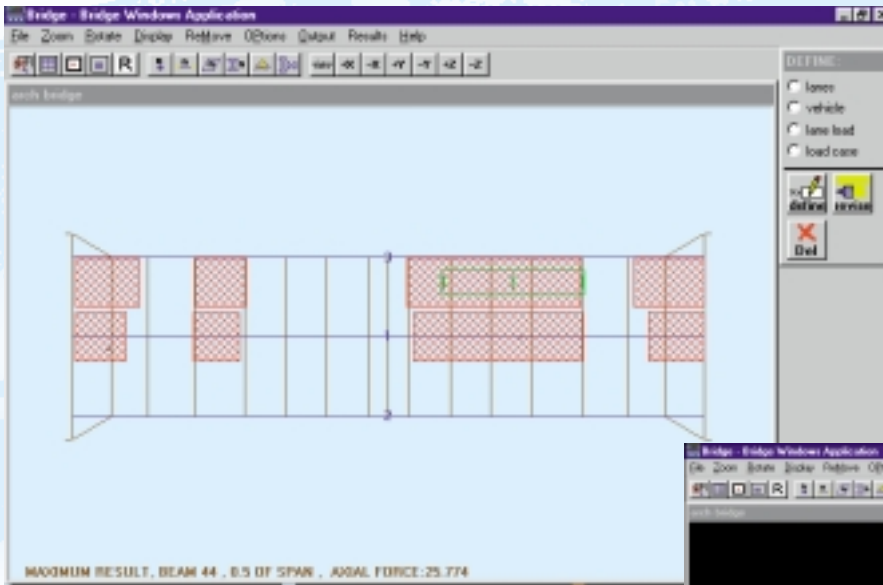
for Bridge Designers

**AutoBridge is a revolutionary addition to STRAP which substantially cuts the time and effort spent creating and interpreting bridge design models.**

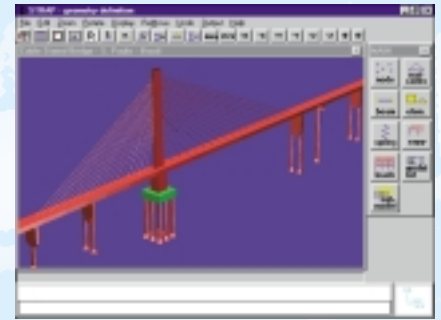
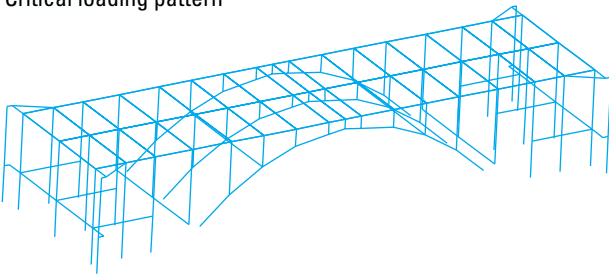
AutoBridge enables the engineer to define lanes and vehicle loads in accordance with local design codes for any STRAP bridge model. The program automatically generates and solves the many vehicular load cases needed to calculate the worst effects everywhere on the bridge. For any result at any location it also gives the influence line, the max-min results and the loading pattern which generated them.

AutoBridge is seamlessly integrated with STRAP, giving the user access to all options for processing and displaying results. Other load types, such as wind and seismic loads, may be defined on the same model and the results may be combined with the envelope generated by AutoBridge. The bridge may then be designed according to local steel and concrete codes.

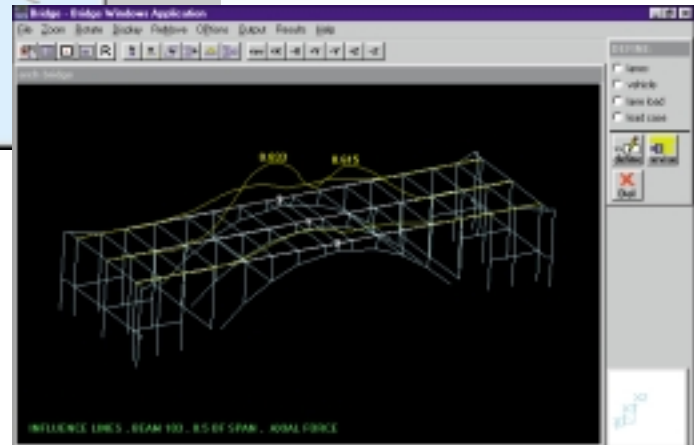




Critical loading pattern



Cable stayed bridge S. Paulo - Brazil  
Design: Enescil Engenharia de Projetos Ltda

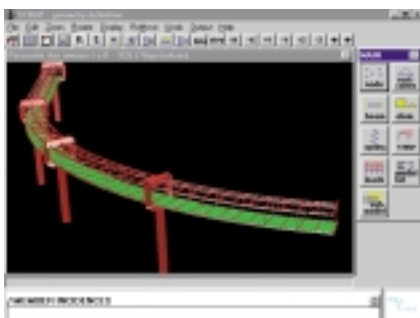


Influence line diagram

## The program's unique features include:

### Lanes

- Lanes may be curved
- Multiple lanes of varying widths may be defined
- The user may create multiple loadings on different lanes (with permutations).



Foot-bridge - Brasilia  
Design: Eng. Welder Silva de Miranda

### Loads

- The user may define a group of different vehicle types (e.g. of varying lengths) and the program will check, for any location in the model, which vehicle causes the worst effect.
- The user may define any uniform, vehicle or knife edge load.
- The program checks and determines by itself which segments in each lane should be loaded by uniform loading to get the max and min effect for each result type at any point on the bridge.
- The program automatically decreases the uniform load according to the length of the loaded section, according to the local design code.

### Results

- The influence lines and the max and min results can be separately requested for each of the result types, including moments, reactions, deflections, etc.
- The influence line also shows the effect of the adjacent lanes on the element being checked.
- The user can instantly obtain influence lines for any position on the bridge.
- Load locations for the worst case effects may be displayed for any position on the bridge.
- Full tabular and graphic display of all results, including envelopes.