

**Lane**

**Lanes** are available through the bridge modeler to indicate where vehicle loads act on a bridge superstructure. Lanes are defined by reference lines, which may be layout lines or frame-object paths. Versatile features enable the modeling of complex roadways and traffic patterns. Multiple lanes may be created, straight or curved, each of a specific length and width, and need not be parallel. Users may combine vehicle loads with static and dynamic loads, then envelope parameters for maximum and minimum response. Response quantities may then be presented in a useful manner according to lane geometry.

Vehicle live loads may be created manually or selected from a list of standard specifications. **Moving-load analysis** may then be selected as the **load case** which implements one of the following methods:

- **Influence-based enveloping analysis**, in which vehicles, oriented in either direction, are automatically positioned within each lane to induce maximum and minimum response throughout the structure.

- **Step-by-step analysis**, in which vehicles travel along the roadway, each with its own start time and position, direction, and speed. This step-by-step procedure may couple with **time-history** analysis and **nonlinear** behavior, and may be useful for special studies or unusual permit vehicles.

Additional information is available in the *CSI Analysis Reference Manual* (Lanes, page 436).

**Tips**

- As described in the **Lane-to-object connection** article, users may control which superstructure objects are subjected to lane loading.

**Articles**

**Tutorials**

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**See Also**

- Layout line article
- Influence-based moving-load analysis implementation article
- Moving-load analysis section