Defining Lane from Layout Line and from Frames

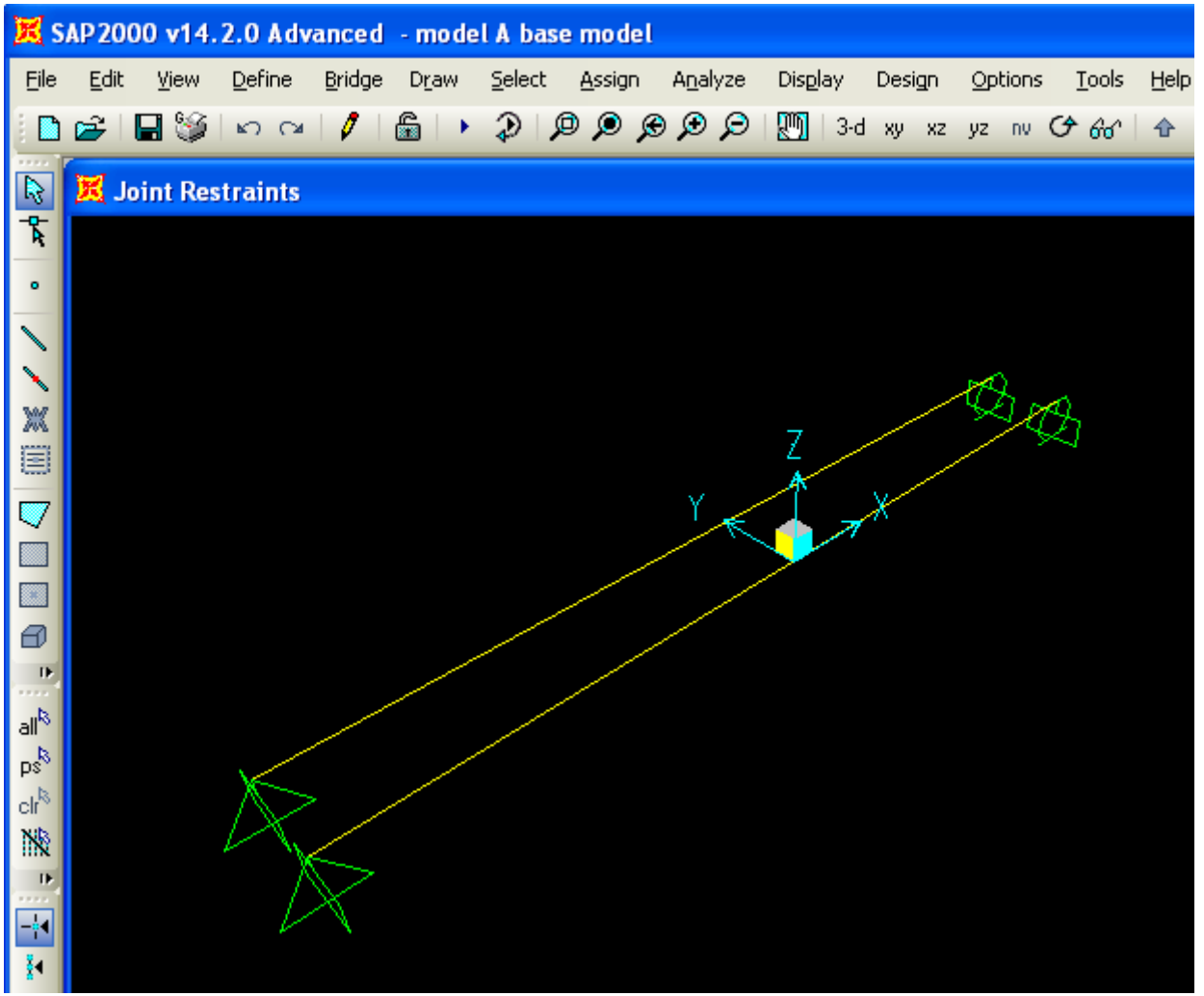
Overview

- This tutorial illustrates how lanes can be defined from layout lines and from frames.
- Defining lanes from layout lines is more powerful, but it requires the bridge modeler license.

Model Geometry

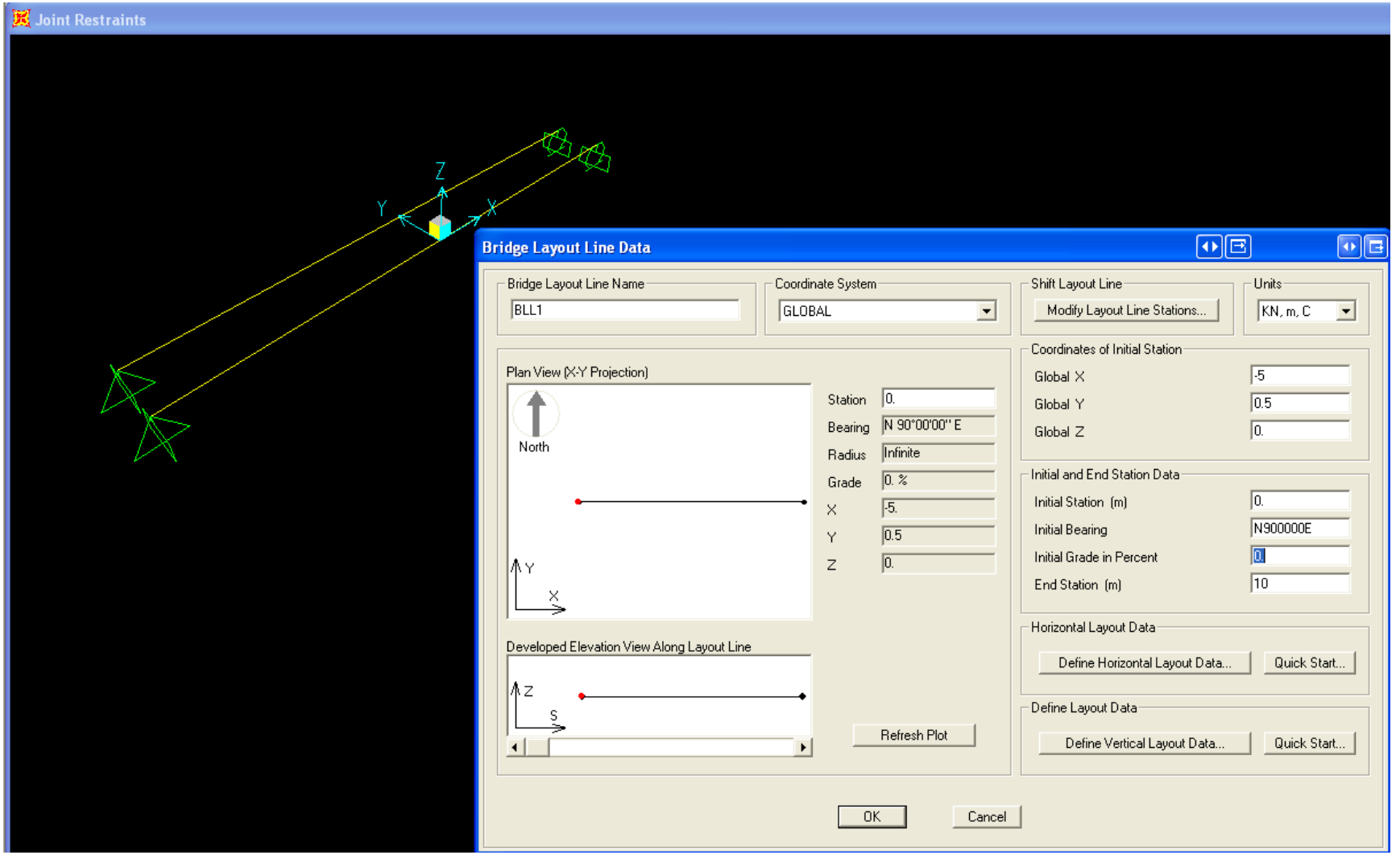
- The model consists of two 10m long simply supported girders spaced 1m apart.
- Unit moving load will be applied along a lane that is located between the two girders.
- The maximum midspan moment for each girder is expected to be (0.5)(PL/4) = (0.5)(1kN)(10m)/4=0.125kN-m.

Model Geometry, cont.

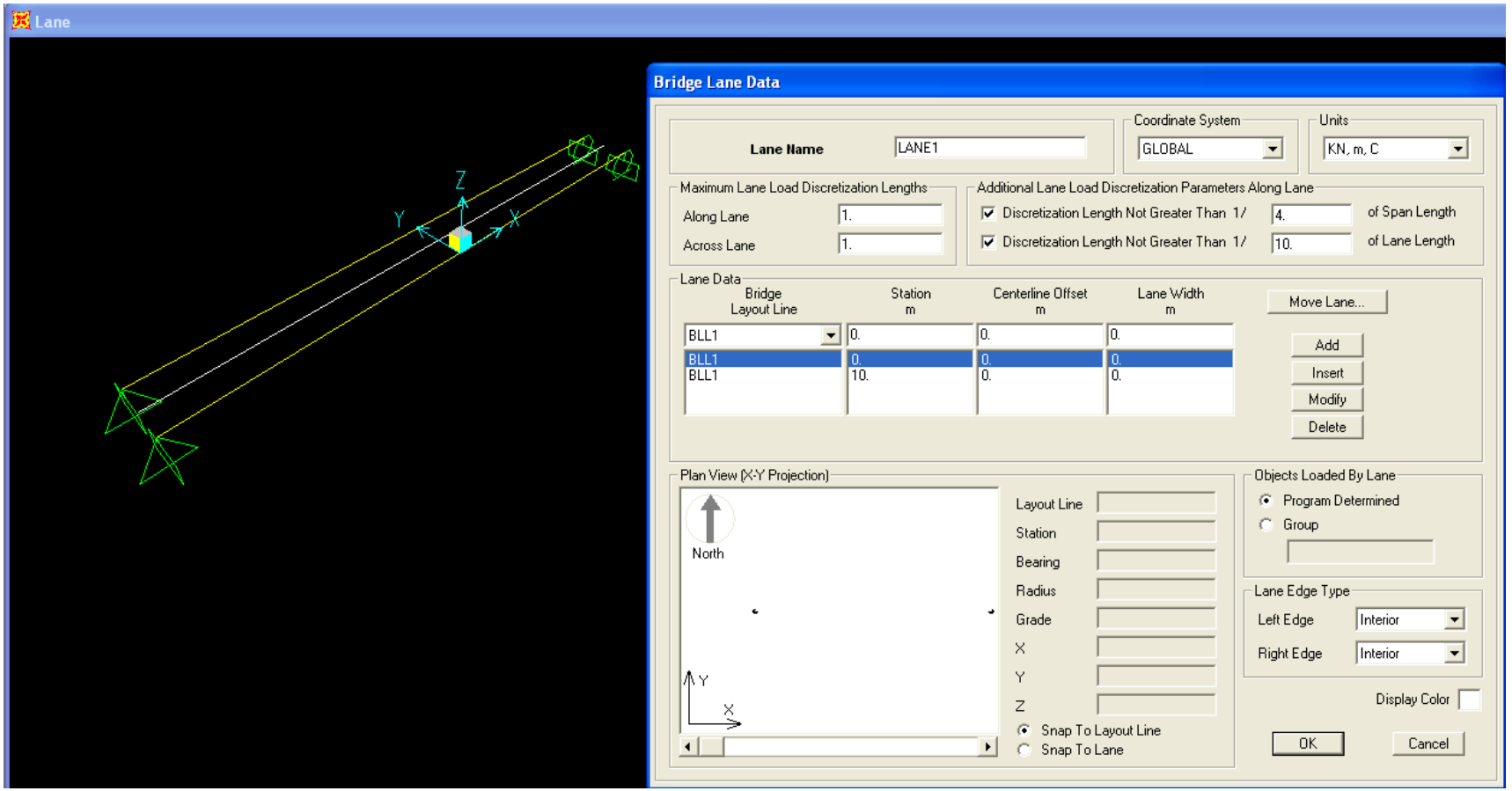


Define Lane from Layout Line

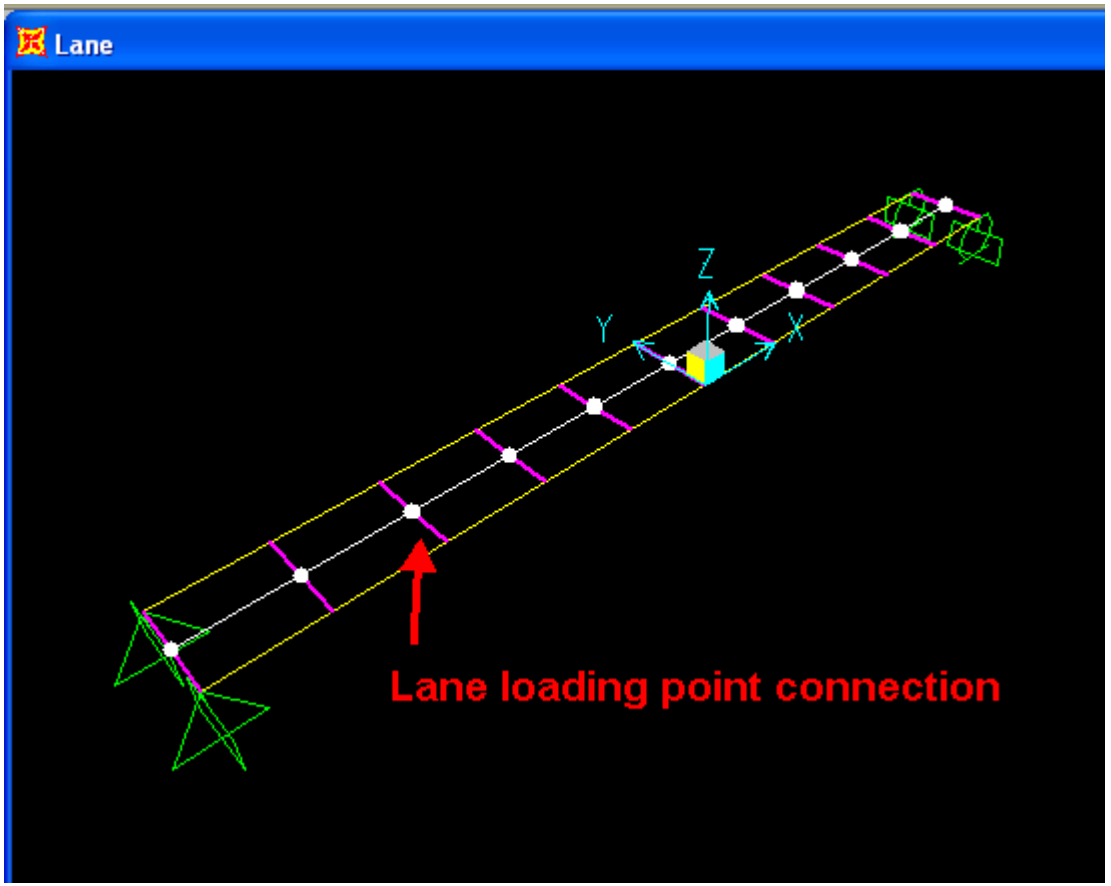
Define Layout Line



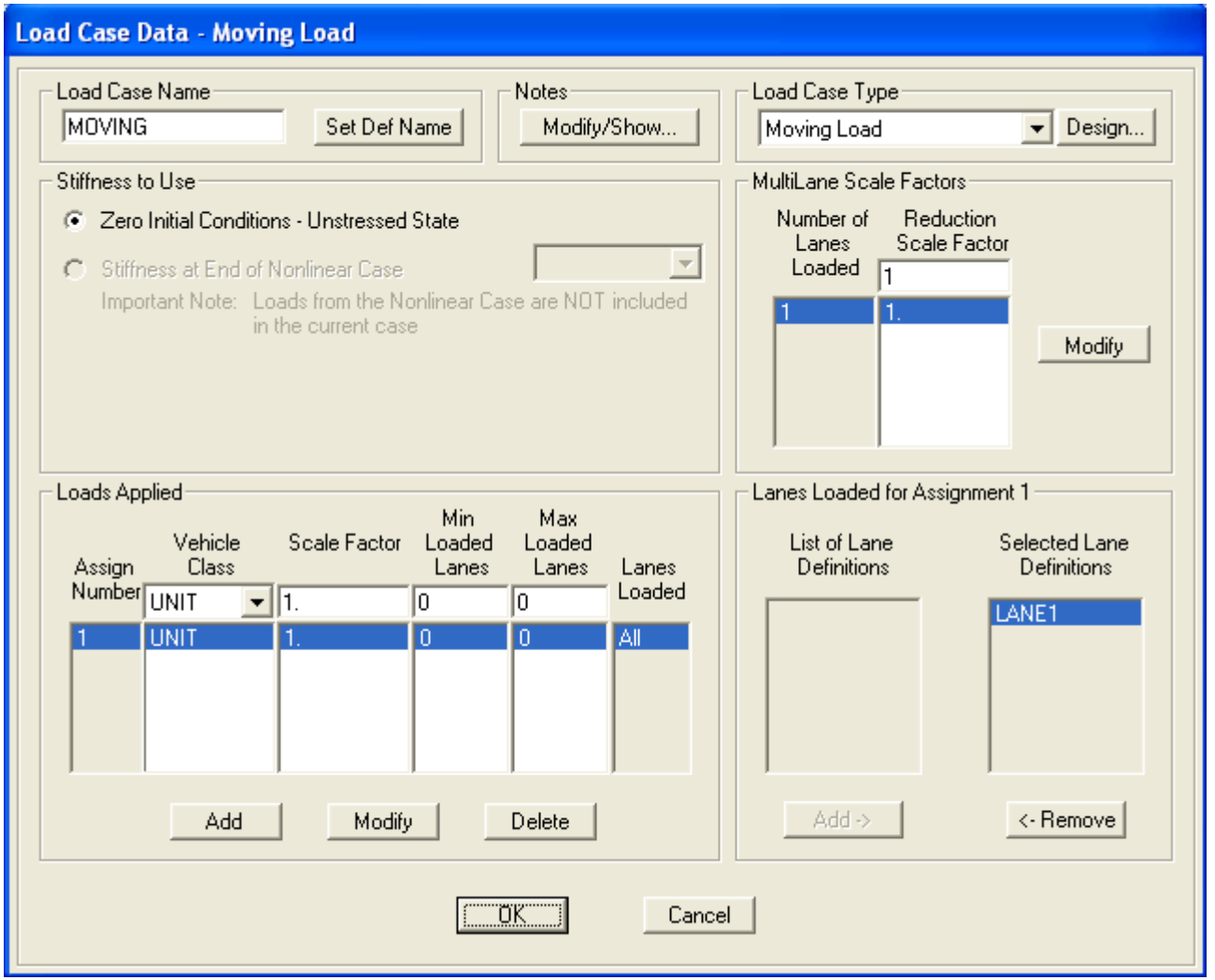
Define Lane From Layout Line



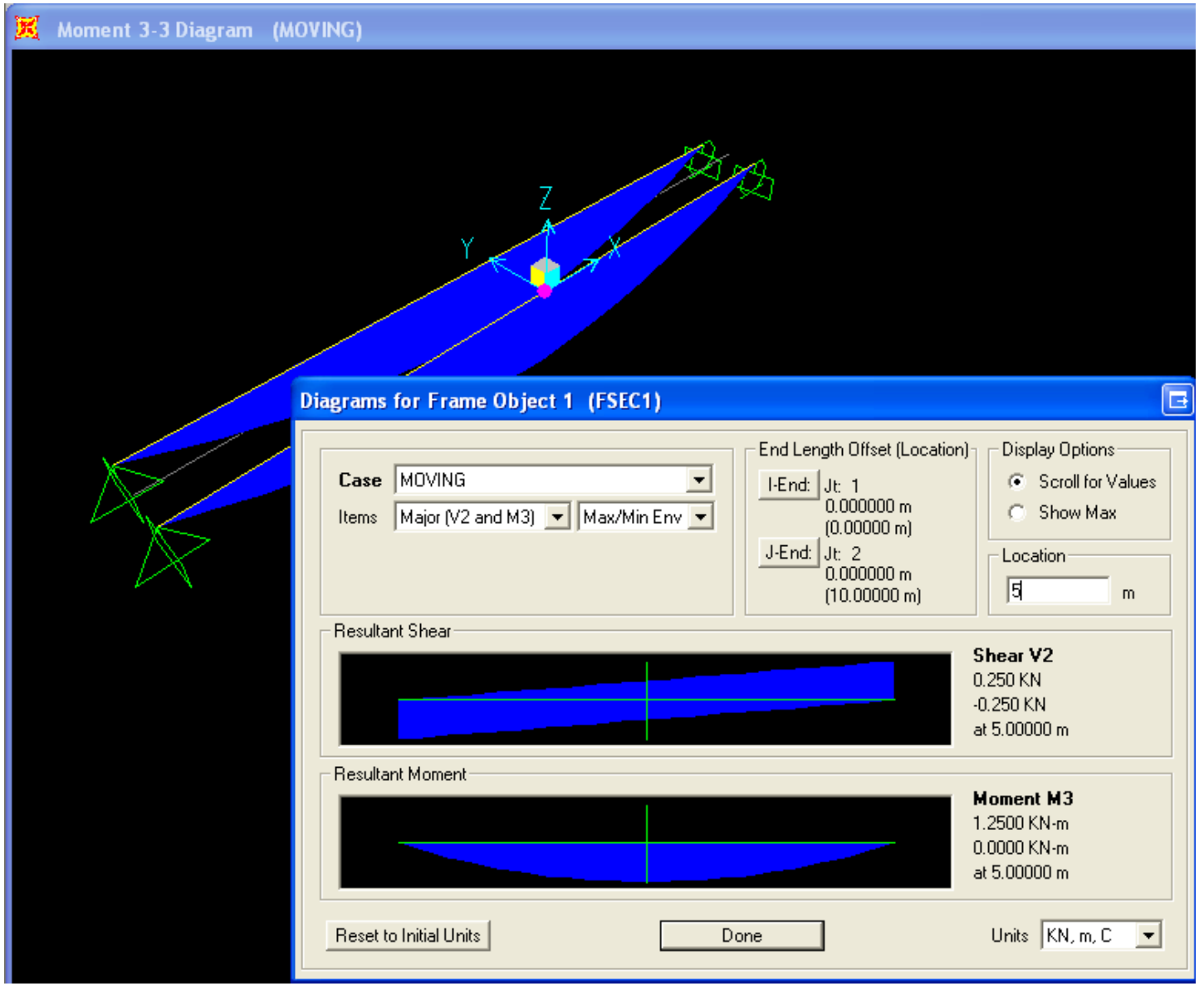
Check Lane Loading Points Connections



Define Moving Load Case

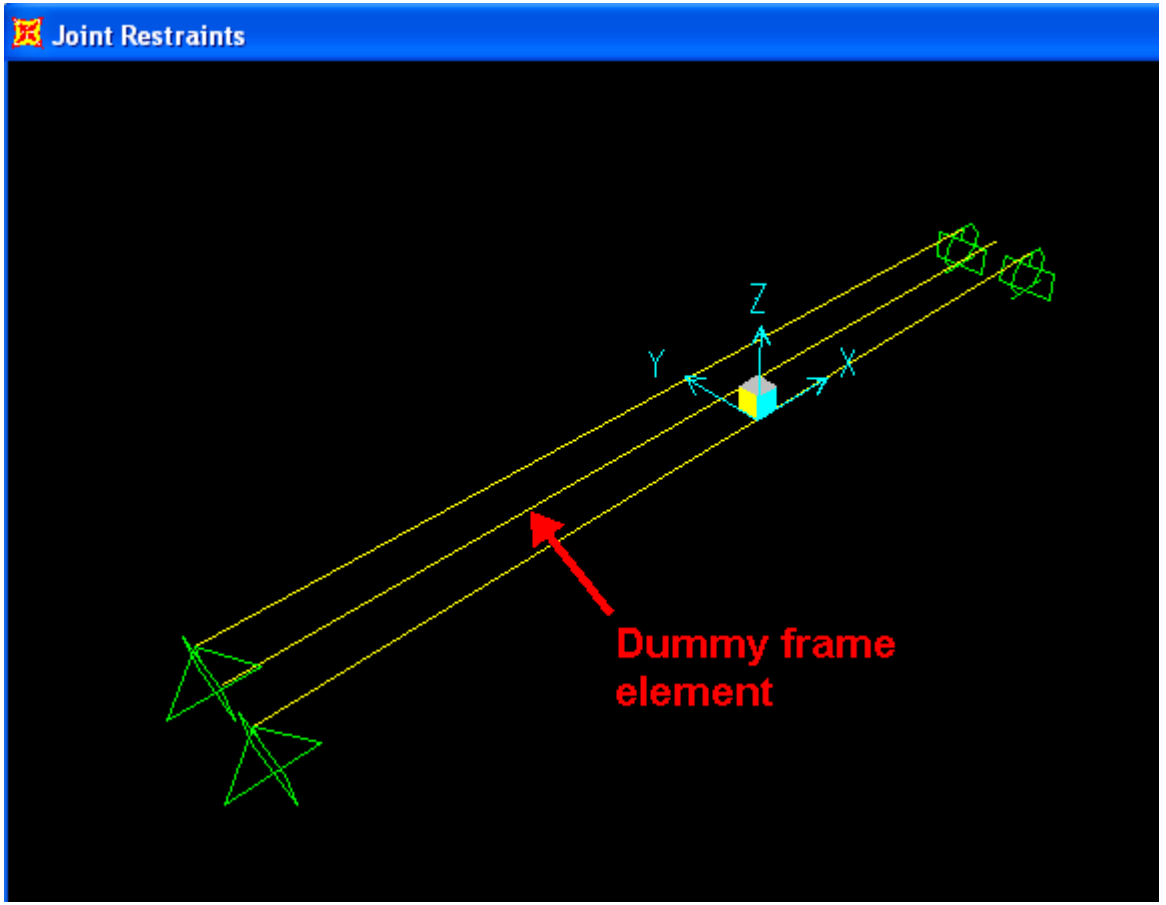


Check Maximum Moment

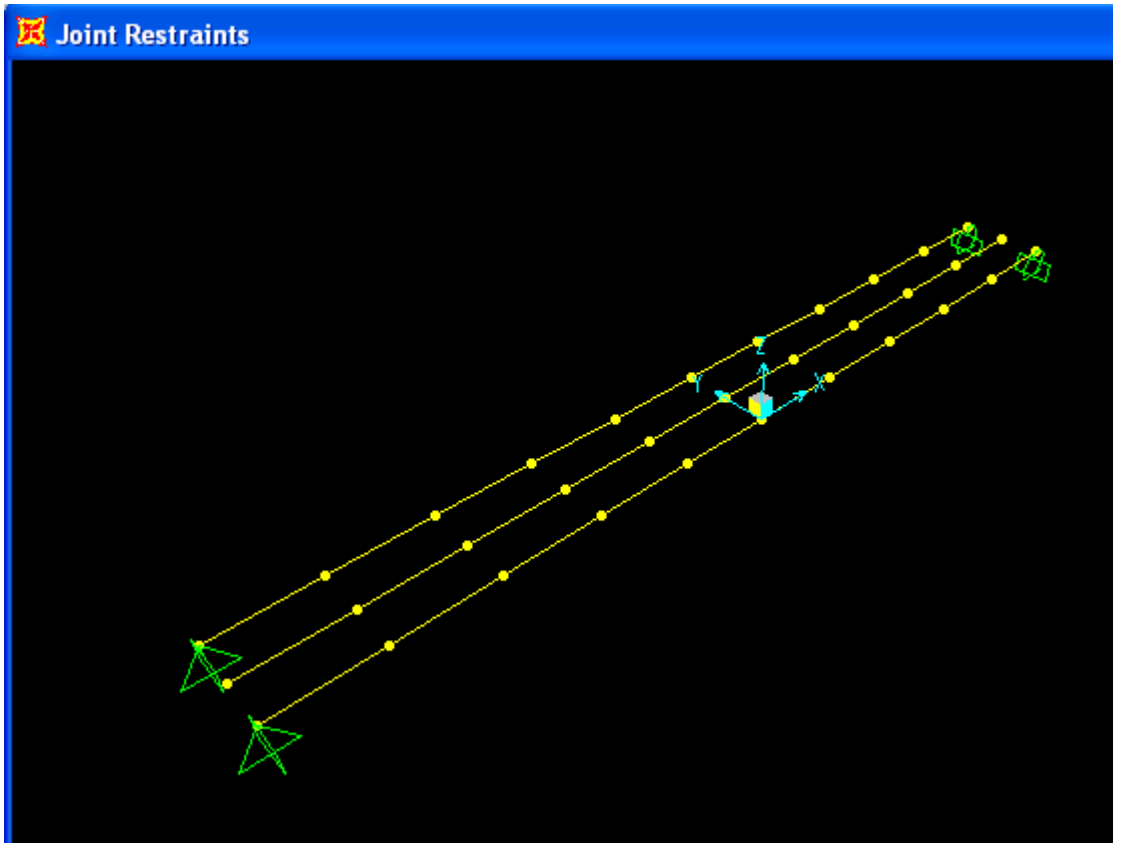


Define Lane from Frames

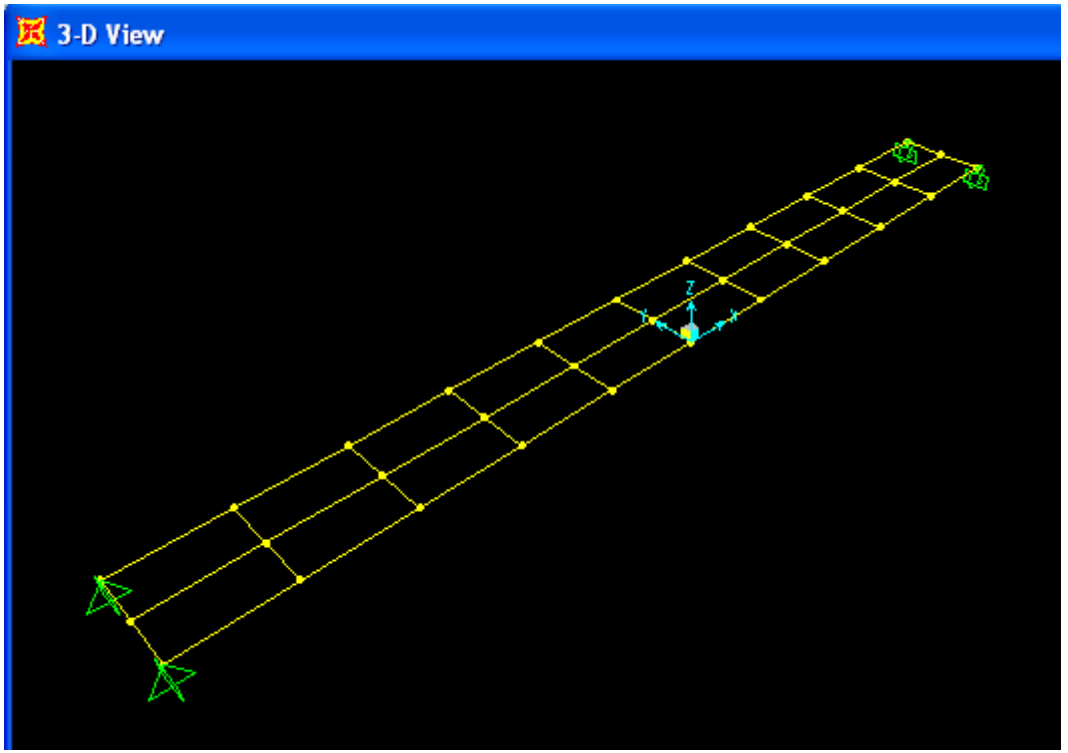
Define Dummy Frame Element to Represent the Lane



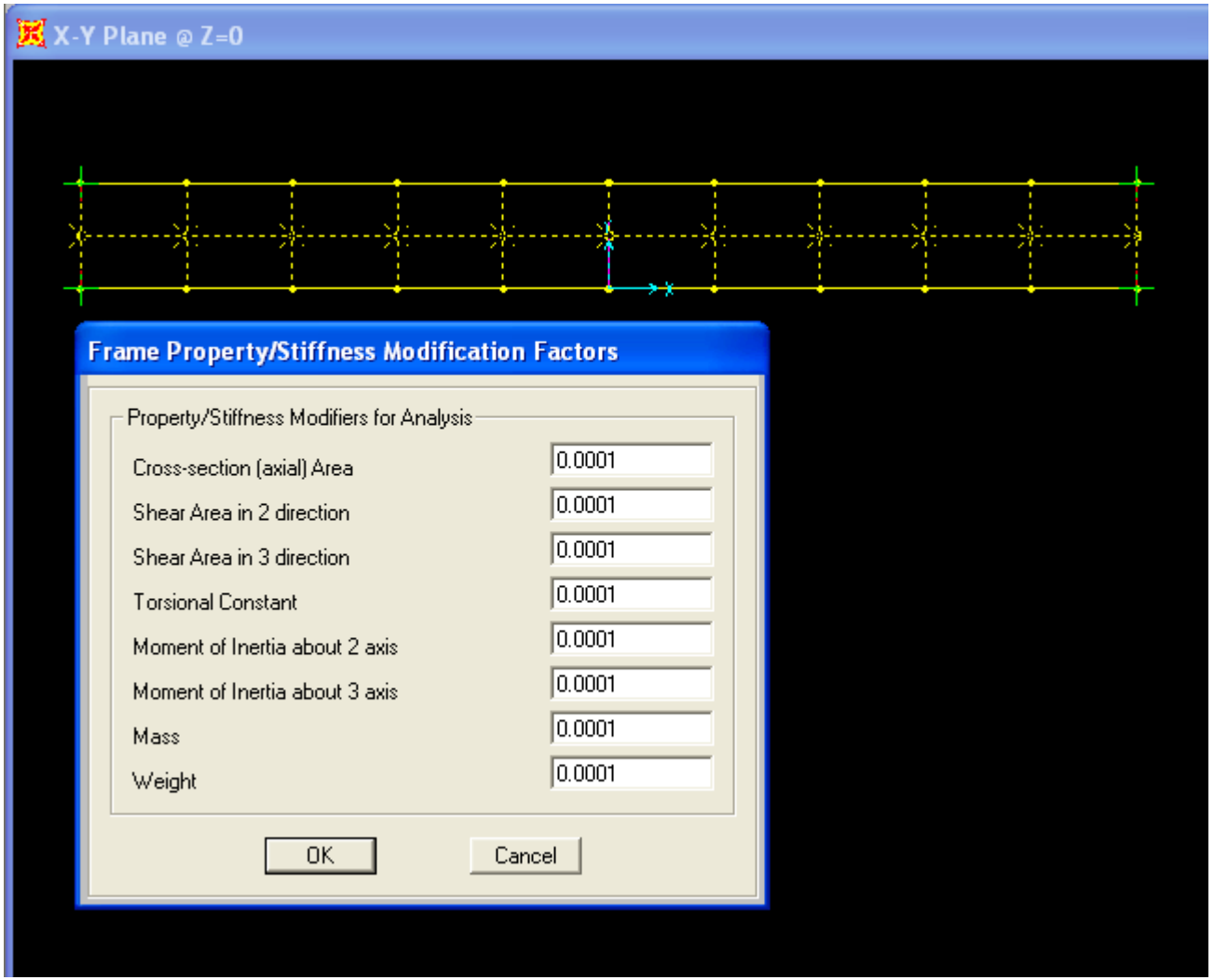
Divide Frames so that Connections Can Be Established



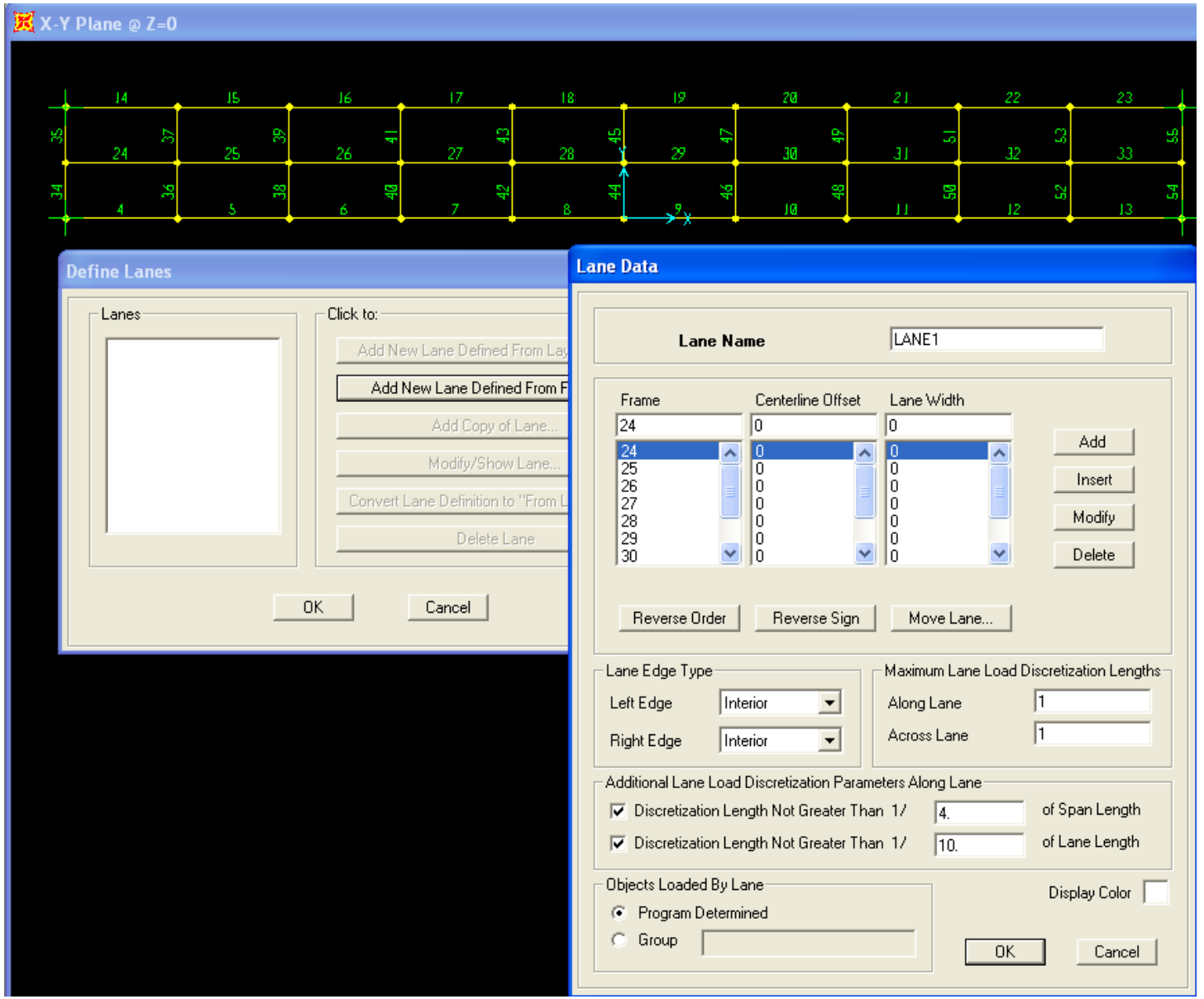
Connect the Dummy Frame Element to the Girders



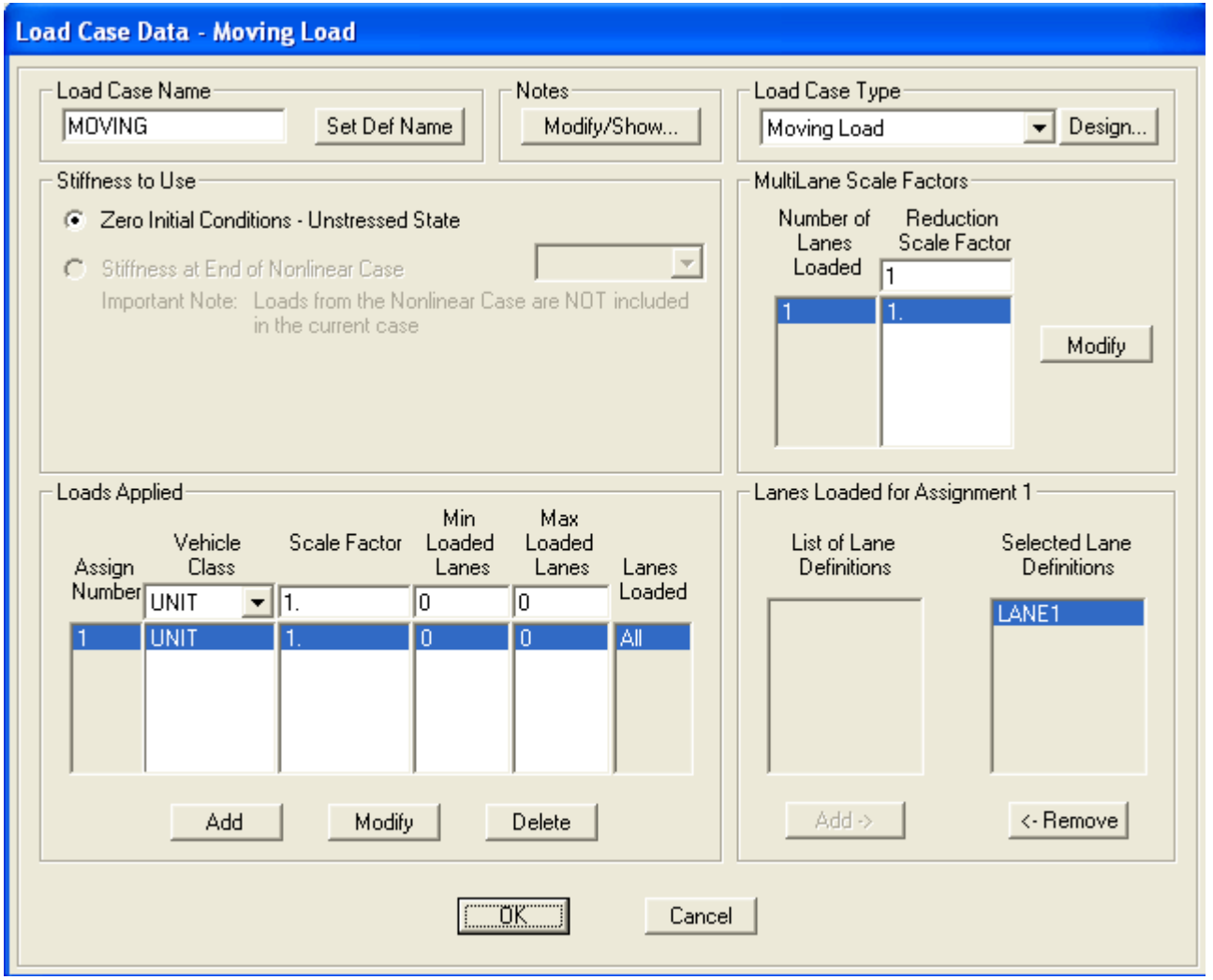
Assign Small Property Modifiers to ALL Dummy Frame Elements to Disregard Their Stiffness



Define the Lane from Dummy Frame Elements



Define Moving Load Case



Check Midspan Moment