

Structural Behavior of Incomplete Box Girder Bridges Subjected to Unpredicted Loads

Authors : E. H. N. Gashti, J. Razzaghi, K. Kujala

Abstract : In general, codes and regulations consider seismic loads only for completed structures of the bridges while, evaluation of incomplete structure of bridges, especially those constructed by free cantilever method, under these loads is also of great importance. Hence, this research tried to study the behavior of incomplete structure of common bridge type (box girder bridge), in construction phase under vertical seismic loads. Subsequently, the paper provided suitable guidelines and solutions to withstand this destructive phenomena. Research results proved that use of preventive methods can significantly reduce the stresses resulted from vertical seismic loads in box cross sections to an acceptable range recommended by design codes.

Keywords : box girder bridges, prestress loads, free cantilever method, seismic loads, construction phase

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