## ABSTRACT

The bridge is a form of construction that consist of two main parts, namely the upper and substructure consisting of various elements. Damage to one of the bridge elements would affect the ability of the overall service of a bridge. One of the damage that could be occured is a settlement in the support of the bridge, a support settlement will affect the upper structure, therefore a structural analysis is needed to the case of a support settlement to determine how they affect the upper structure.

Analysis of the structure is done by simulating the settlement that occurred on the bridge. The bridge that analyzed as the object of this research is Kuranji precast bridge. The analysis is done by modeling the structure of the bridge structure at SAP2000 and values are taken into account in the analysis result is the value of the displacement, internal force and frequency of the structure. From this analysis, it can be seen that the settlement in the support case will have major implications for the structure of the bridge if that happens is settlement in full section of pillars or abutments seen from a comparison with the value of the deflection, internal force and frequency increment occurs. Meanwhile, if the settlement occurs only in half of the pillars or abutments, it just had a little effect to the structure because the other half of pillars section or abutments section are still strength enough to withstand the upper structure, seen from the deflection occurs is still under deflection permit and difference frequency value structure that is not too far with the frequency of normal condition.

**Keywords**: precast bridge, support settlement, deflection, frequency of structure

