

Transversal Connection Strengthening of T Section Beam Bridge with Brace System

Authors : Chen Chen

Abstract : T section beam bridge has been widely used in China as it is low cost and easy to erect. Some of T section beam bridges only have end diaphragms and the adjacent girders are connected by wet-joint along span, which leads to the damage of transversal connection becomes a serious problem in operation and maintenance. This paper presents a brace system to strengthen the transversal connection of T section beam bridge. The strengthening effect was discussed by experiments and finite element analysis. The results show that the proposed brace system can improve load transfer between adjacent girders. Based on experiments and FEA model, displacement of T section beam with proposed brace system reduced 14.9% and 19.1% respectively. Integral rigidity increased 19.4% by static experiments. The transversal connection of T section beam bridge can be improved efficiently.

Keywords : experiment, strengthening, T section beam bridge, transversal connection

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