## عنوان مقاله:

Strengthening Non-Composite Steel Bridges with Concrete Deck Using Post-Installed Shear Connectors Considering Fatigue Behavior of Shear Connectors and Inelastic Moment Redistribution


## محل انتشار:

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## خلاصه مقاله:

Many older bridges are constructed with floor systems consisting of a non-composite concrete deck over steel girders. A potentially economical method for strengthening these bridges is to develop composite action by attaching the existing concrete deck to the steel beams using post-installed shear connectors. The current paper discusses this method based on the findings from a large-scale research study aimed at strengthening existing non-composite continuous steel girder bridges. The results of this research indicate that post-installed shear connectors are a feasible and efficient method of extending the useful service life of a non-composite steel girder bridge. Increases of more than 60-percent in the ultimate strength of the bridge girders tested in this study were attained by strengthening to a composite ratio of only 30-percent. The test program also exhibited excellent fatigue resistance for the post-installed shear connectors.



## کلمات کلیدی:

Fatigue, Bridge, Retrofit, Rehabilitation, Shear Connector