Bridge Structures 16 (2020) 1
DOI:10.3233/BRS-200172
IOS Press

Editorial

Steel press-brake-formed tub girders technology consists of cold-bending standard mill plate width and thicknesses to form a trapezoidal box girder. The steel plate can be weathering steel or galvanized steel, each an economical option. Once the plate has been press-brake formed, shear studs are then welded to the top flanges. A reinforced concrete deck is cast on the girder in the fabrication shop and allowed to cure, becoming a composite modular unit. The composite tub girder is then shipped to the bridge site, allowing for accelerated construction and reduced traffic interruptions. In "Fatigue performance of singular and modular press-brake-formed steel tub girders," Barth et al present a fatigue evaluation of press-brake-formed tub girders. The study is accomplished by full-scale laboratory testing of two separate single composite tub girders and of a system model consisting of two composite tub girders joined with ultra-high performance concrete (UHPC). The singular tub girders and the twin tub tests were fatigue tested to simulate a 75-year design life in a low- to mid-volume traffic environment. In Europe, a deck of a concrete bridge usually consists of several layers with specialized functions. The concept where all the functions are integrated into one layer (called "unprotected concrete bridge deck – UCBD" in this paper) is popular in the North America. In "Unprotected polymer fiber reinforced concrete deck as a wearing surface of a bridge: pilot application, " Bílý et al present the design, construction and monitoring of a pilot UCBD structure in the Czech Republic. The pilot study employed polymer fiber reinforced concrete (PFRC). The composition of the material was optimized during an extensive experimental program. The developed material was then applied on a small-span bridge on a local road. The pilot structure will be subjected to long-term monitoring with the aim to verify the reliability of the new concept and to perform a more detailed life cycle cost analysis. The friction pendulum system is a sliding isolator in which sliding motion and recursive force are combined by isolator geometry. Vatanshenas and Rohanimanes are "Investigating the effect of span-length and earthquake directivity on the response of multi-span continuous girder bridges isolated by friction bearings." The study was conducted on two bridges, where the base shear created in the bridges depends on the bridge span. More base shear is applied on the bridge with longer spans. In both bridges, the base shear under records of a side with directivity feature was more than the other side. Deck displacement in the bridges in the side with directivity feature was significantly larger than the other side. This increase in structural displacement can lead to the pounding of the bridge deck on abutments. For this reason, it seems necessary to embed the appropriate expansion joints considering the effect of directivity of the earthquakes. Aging bridges are in constant need of maintenance to keep up with increasing traffic load and harsh environmental conditions. Management techniques evolved as a future predictor about the physical condition of bridges and finding key information about the reliability parameter of bridge components during its service life. Das and Sil present "Condition assessment of superstructure component of reinforced concrete bridges through visual inspection in the Assam, India." The paper describes a probabilistic approach to estimate the conditional failure probability of the existing bridges in Assam based on the present condition inspected data. The bridges are categorized considering Indian Road Congress (IRC) Bridge Maintenance Inspection manual and National Bridge Inventory System (NBIS), through implementing visual inspection method leading to condition assessment of the bridges available in the study area.

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