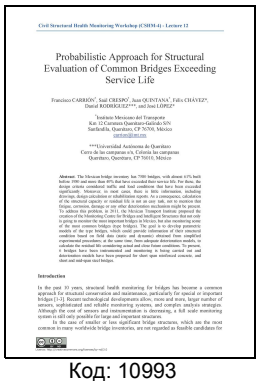

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Probabilistic Approach for Structural Evaluation of Common Bridges Exceeding Service Life

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The Mexican bridge inventory has 7580 bridges, with almost 61% built before 1980 and more than 40% that have exceeded their service life. For these, the design criteria considered traffic and load conditions that have been exceeded significantly. Moreover, in most cases, there is little information, including drawings, design calculation or rehabilitation reports. As a consequence, calculation of the structural capacity or residual life is not an easy task, not to mention that fatigue, corrosion, damage or any other deterioration mechanism might be present. To address this problem, in 2011, the Mexican Transport Institute proposed the creation of the Monitoring Centre for Bridges and Intelligent Structures that not only is going to monitor the most important bridges in Mexico, but also monitoring some of the most common bridges (type bridges). The goal is to develop parametric models of the type bridges, which could provide information of their structural condition based on field data (static and dynamic) obtained from simplified experimental procedures; at the same time, from adequate deterioration models, to calculate the residual life considering actual and close future conditions. To present, 6 bridges have been instrumented and monitoring is being carried out and deterioration models have been proposed for short span reinforced concrete, and short and mid-span steel bridges.

Доклад. Конференция по мониторингу технического состояния гражданских сооружений (CSHM-4), «Системы мониторинга технического состояния сооружений, обеспечивающие продление срока службы сооружений». Ноябрь, 2012. Берлин. Германия.

Ключевые слова:

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