



Structural analysis and modelling of a reinforced concrete bridge based on full scale data. Þórunn Vala Jónasdóttir og Jónas Þór Snæbjörnsson, Háskólinn í Reykjavík – september 2021.

This report evolves around structural modelling and analysis of full-scale monitoring data, exploring available analysis and modelling techniques. The purpose of the project is to study the structural characteristics and dynamic behaviour of a concrete bridge. The case to be studied is the old bridge over Steinavötn river, in south-east Iceland, that has now been demolished. Before the bridge was removed in the fall of 2019, it was used as a full-scale lab for dynamic and static experiments. Finite element based modelling of the bridge structure and operational modal analysis of ambient acceleration data recorded on the bridge, comprise the core of this study. The objective is partly to improve the understanding of the required bridge properties to be able to better simulate the behaviour of concrete bridges to provide reliable estimates of response to various loading processes.