

Contribution to Restoration Process of Structural Analysis Studies on Historic Bridges

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Abstract

In addition to making new roads and bridges maintenance and repair of historical bridges is one of the main duties of General Directorate of Highways, Restoration Implementation Project was prepared for 538 historical bridges and Restoration Implementation studies on 196 historical bridges between 2003 and 2016. In this paper, among the 70 historical bridges, the restoration projects were prepared; The contribution to the restoration projects and implementations of the structural analysis studies of the four different historical bridges constructed using the structural system, construction material and practice will be explained through examples, the different features of all historic bridges that were the subject of the examination required the preparation of separate technical specifications for each, all project and implementation studies were carried out in this direction.

Keywords: Historical bridges; restoration; structural analysis studies.

1 Introduction

According to the inventory records, as of December 2016, in respect to the production techniques and materials belonging to various civilizations in our country; there are a total of 1948 historical bridges including stone arch (1834), wooden (38), iron / steel (34) and reinforced concrete (42) [1] [2]. The information on the project-implementation studies carried out between 2003 and 2016 at home and abroad, covering the original construction systems of bridges and material analyses, is given in Table 1. Within the scope of this study will be focused on the stages of technical research, structural analysis and interpretation of the projects, from structural analysis studies involving different software and approaches has been prepared for 70 bridges at the institutional level so far, built using different construction materials and

practices, the structural analysis of the four historical bridges selected from different periods and geographies, and the purpose and how to use the obtained data in the project and application phase will be shared [1], [2].

Table 1. Studies conducted on the restoration of historical bridges

STUDIES ON HISTORICAL BRIDGE RESTORATIONS (2003-2016)		
Scope of Work	Number of Bridges	
	Domestic	Abroad
INVENTORY (As of December 2016)	1948	313
PROJECT (2003-2016)	538	2
IMPLEMENTATION (2003-2016)	196	2