



Chilean Performance Indicator by region applied to road bridges

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Abstract

Chile has a special climatically and geographical environmental condition including the seismicity and scour process on riverbed. This condition produces a particular provision for design and maintenance program on bridges, in order to reduce the vulnerability of the structure avoiding risk of collapse condition on the critical road network. Following the international experience related with the standardization of performance indicators on road bridges, the Ministry of Public Work of Chile and Pontificia Universidad Católica de Valparaíso are developing a program for applied these performance indicators an inspection protocols in order to match with the current Chilean maintenance program and reduce the uncertainties on technical decision of rehabilitation activities. This paper proposes performance indicators applied on Chile using a collection of inspection activities carried out by the Technical Teams of the Ministry. The proposed performance indicators are divided by region of the Chile in order to match with the main hazard and damages detected in each zone (North, central and Austral) and it is defining the importance for the inspections and maintenance program per each case, following the categories of Performance Indicator or Key Performance Indicator. Finally, these results are discussed compared with the result provided by European experience.

Keywords: Bridges, Performance Indicator, Chile

1. Introduction

In bridge inspections, throughout the years it has been able to find a substantial quantity of damages, damages, elements missing or other factors that affect the structure and its service life. Which depending on the type of the damage, on the long run it may generate significant damages that make worst the state of the structure. This is why the international maintenance programs seek to englobe and study all of the damages or

unfavorable situations using performance indicators that can generate and be used in different bridges.

Despite of having a big compilation of defects or damages that influence the bridges, international methodology has not included climate and environmental factors focus on South America, and specifically, Chile. Therefore, the adaptation of the model in Chile needs to generate performance indications that allows to modify the model to the characteristics existent in our country.