

Safety and extension of life time of Road Bridges with considering bridge design, damage assessment and rehabilitations

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Road bridges are fundamental infrastructure in all national, regional or local road networks. In many developed countries, significant budgets were invested on road infrastructure including road bridges during the economic growth. Due to this situation, many developed countries are facing a problem related to aging of road bridges. Developing countries have devoted their investment to infrastructure in more recent times and will face similar aging issues in the future.

In the design of road bridges, taking into accounts future inspections and maintenance has often been overlooked in the past. This approach has, in many cases, resulted in costly future maintenance. Bridge owners in most countries routinely assess bridge damage and deterioration to ensure the safety of the traveling public. The discovery of damage and deterioration may lead to a bridge closure, traffic restriction, or weight restriction. This will require damage assessment techniques, load carrying capacity calculations, and subsequent remedial works to return the bridge into service. In addition, Bridge owners also have to take into accounts the adaptability of existing bridges to the current design requirement from the society. Considering all those requirements, they have to decide at a certain moment what to do in the next step.

In light of the above, three issues including “Bridge design toward improved inspection and maintenance”, “Technical and economic considerations of bridge rehabilitation methods” and “Inspections and damage assessment techniques” were dealt with by PIARC Road Bridges Committee. Main information with respect to three issues had been collected from different

countries in the world and the outcomes had been investigated based on the collected information. Those information will be useful for bridge owners as well as bridge engineers.