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# DEVELOPMENT OF CABLE STAYED BRIDGES IN SRI LANKA

A thesis submitted for the partial fulfillment of the Degree of Master of Engineering in Structural Engineering Design

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## Abstract

The up gradation of infrastructure facility is very important for the economic advancement of a country. The transportation sector plays an important role in rapid development of rural economy which contributes a lot to the country. The rural roads and bridges are to be upgraded to achieve this target. A large number of bridges which are the costly items are required at least for light traffic to improve the rural road network and link roads. So, it is useful to introduce some cable stayed bridges for vehicular traffic that could be designed and constructed with the available local experts.

It is necessary to make sure that an accurate analysis and design techniques are applied when a cable stayed bridge is designed for vehicular traffic. Three dimensional computer model is used in this study to apply the relevant loadings and load combinations to structurally and dynamically analyse the structure. The output of this analysis gives the necessary information for the structural design. The final structure could be designed with some reasonable engineering judgement without any approximate analysis.

The bailey bridge components such as deck plates, transoms, panels, bracings and other accessories are used in this modeling. The assembling detail of deck is available in the bailey manual. The technique for constructing the bridge with local expertise is also considered.

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## DECLARATION

I, T.T.Vasanthakumar, hereby declare that the content of this thesis is the original work carried out by me. Whenever others' work is included in this thesis, it is appropriately acknowledged as a reference.

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