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**AND TECHNOLOGY**  
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**SURVEYING**  
**UNIVERSITI TEKNOLOGI MARA PERAK BRANCH**

**THE MAINTENANCE OF MANAGEMENT**  
**GUILLEMARD RAILWAYS BRIDGE,**  
**KELANTAN**

Final Project submitted in partial fulfilment  
of the requirement for the award of  
Bachelor of Quantity Surveying (Honours)

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**SEMESTER : MARCH 2021 – AUGUST 2021**

## ABSTRACT

Malaysia's building sector is a key contributor to the country's economic prosperity. Unfortunately, concerns of heritage building maintainers being targeted in order to protect the aesthetic value have led Malaysia to acknowledge the need for a more sustainable heritage railway bridge. Malaysian heritage railway bridge upkeep is confronted with obstacles and roadblocks, resulting in differing perspectives among industry participants. The aim of this research is determining the effective maintenance management of Guillemard Railway Bridge in Tanah Merah, Kelantan. In order to achieve the aim of the study, the objectives of this research are to identify the barriers that influence of maintenance management of heritage Railway Bridge, to determine the impact of maintenance management towards heritage railway bridge and to examine the significant of maintenance management of heritage railway bridge. The results obtained from 50 respondents of contractor G7 indicated that the barriers of maintenance management towards heritage railway bridge consisting of social barrier, financial barrier, knowledge barrier, technology barrier and political barrier accordingly. Furthermore, the impact of maintenance management towards heritage railway bridge that have been identified in this research are impact towards financial, impact towards technology and impact towards social. From the data analyzed, this research found that financial barrier, political barrier and knowledge barrier have significant towards maintenance management towards heritage railway bridge. Further research is to suggest the research on maintenance management towards heritage railway bridge in more depth focusing on specific Malaysian heritage railway bridge.

**Keywords:** Maintenance management, Heritage, Railway Bridge

## ACKNOWLEDGEMENT

I am grateful to Allah S.W.T. for providing me with the inspiration and physical stamina to complete this final project/dissertation. An undertaking of this magnitude needs more than simply the author's efforts. I want to thank everyone who took the time to reply to the survey and also gave their important support to complete this final project/dissertation.

First and foremost, I want to express my gratitude and recognition to my supervisor, who has provided me with direction, unwavering support, and valuable suggestions in the preparation of this final project/dissertation. Also, a particular thanks for the informative supervision, encouragement, intelligent comments, and advanced recommendations throughout the research.

My appreciation also extends to everyone who volunteered to be questioned, both formally and informally, and who generously shared their expertise, perspectives, and experiences with me. During the preparation of my final project/dissertation, I am also grateful to all of my friends for their physical and moral support and encouragement.

Finally, I want to express my gratitude to my loving parents and family members, who never fail to encourage and support me while I work on my final project/dissertation. Thank you for all the understanding given to me when I really needed it.

Thank you.

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# CHAPTER 1: INTRODUCTION

## 1.1 BACKGROUND OF STUDY

Kelantan is one of the Malaysian states with a heritage railway bridge that must be regularly maintained to ensure the safety of road users. In general, when a railway bridge is heritage structure, maintenance expenses will climb since the structure used is old and not modern, making routine maintenance duties more complex and relieving the burden on maintenance parties. As stated by Khan, M. A. (2015) in his research in recent Developments in ABC Concepts. Accelerated Bridge Construction highlighted as those bridges age, highway agencies have hundreds of bridges on their agendas to reconstruct and open to the public in any given year in order to rehabilitation tasks such as repairs or retrofits are much more common than replacements, which are applicable to superstructure maintenance, retrofits, or widening but with minor substructure rehabilitation work.

The management team working under pressure to try to solve problems encountered during the maintenance and improvement of heritage railway bridges in this age of globalization is one of the factors directly involved in maintenance management. It is difficult to get help from a financial standpoint, and it is also difficult to get data analysis and information. According to Hurt, M., & Schrock, S. D. (2016) stated that the National Bridge Inventory (NBI) condition and appraisal ratings were used by the Federal Highway Administration (FHWA) for bridge work under the Highway Bridge Replacement and Rehabilitation Program and the Special Bridge Program. Inspection data was used to determine which bridges would get maintenance or rehabilitation work.

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