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**RISK MANAGEMENT IN LIGHT RAIL
TRANSIT (LRT) PROJECT**

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ABSTRACT

Infrastructure construction project is one of the high-risk projects due to their large scope of work. Because of that, infrastructure projects such as the Light Rail Transit project require suitable risk management to overcome the risk. This research aims to recommend appropriate risk management that can be utilized in light rail Transit (LRT) projects in Malaysia. The objective of this research is to identify the risks that often occur during light rail (LRT) construction projects in Malaysia and determine the impact of those risks on LRT projects to prioritize in resolving high risks, and to recommend appropriate methods for managing those risks. Based on the literature review and survey question executed, this research resulted in the formation of a risk management list to assist in the mitigation of risk in LRT construction. It can improve the risk management plan for the LRT project by adopting the suggested approach by use the right method for the right problem. The method used to collect data and information regarding the LRT project is by research through literature review and distributing online survey questions to the construction companies that have experience in managing LRT in Klang Valley, Malaysia. The descriptive analysis is used to identify the most frequent risks that arise in LRT projects, as well as a risk management approach for the LRT project. The Relative Importance Index was used to assess which risk had the greatest impact on the LRT project in Malaysia. As a result, the effect from the economic condition and congested site area become the most frequent and high impact risk on LRT project, and comprehensive site survey with a competent land surveyor, choose the correct type of contract use, obtains right for the company to compensate the client for a project loan, equity, and lost profit, and ensure condition precedent within the company's control listed as the risk management for LRT project in Malaysia.

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CHAPTER 1: INTRODUCTION

1. 1 BACKGROUND OF RESEARCH

Light Rail Transit (LRT) is one of the rail transports that has been used in Malaysia, especially in Klang Valley beside Monorail, mass rapid transit (MRT) and commuter. Light Rail Transit can be divided into Light Rail Transit at grade, underground and elevated. Light Rail Transit (LRT) or rail transportation allows people to travel from one place to another in a very short period of time, and it is interconnected with various places or landmarks which includes road network, rail networks, mass transit systems, flight paths, bridges, terminals, signals, and others (Ismail, Aftab, & Nora Sheda, 2014).

Railway network is used more than as a type of transportation. It can also be seen as a solution to urban congestion problems especially in the city area (Noor Hafiza, Mohd Idrus, Imran, & Mohd Isom, 2017). Congested areas such as the city area usually face the worst traffic, especially during the peak hour. To manage the problem, the government has stepped forward with LRT projects which are a very effective solution to congestion (Ismail, Aftab, & Nora Sheda, 2014). Public transport such as rail transport is used to reduce the number of cars on the road and at the same time reduce the traffic in urban areas and air pollution.

To encourage people, use public transport from private transportation, the government needs to provide convenient and affordable public transportation that can be used by various strata of people from workers to students. LRT was one of convenient and affordable public transportation, thus LRT needs to be well constructed to make sure it can serve its purpose. However, the LRT project was categorized as infrastructure work with high risk due to its size and complexity.