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
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# Implication of One-Way Direction using Schedule Time at Jalan Indera Mahkota 5, Kuantan, Pahang

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**Abstract.** Beginning March 8, 2021, the public works department Jabatan Kerja Raya (JKR) Kuantan, implemented a one-way direction according to a scheduled time at Jalan Indera Mahkota 5. Observations confirmed that the one-way direction according to the scheduled time caused traffic congestion during peak hours. The objective of this study is to analyze the percentage of vehicles that do not obey the one-way directions according to the scheduled time and analyze road user compliance based on responses to a questionnaire. Traffic study and questionnaire are the methods used in this study. The traffic study is divided into two categories: the total number of vehicles and the percentage of vehicles that do not obey the one-way direction at a scheduled time. The findings of this study indicate that 12% of the vehicles did not follow JKR's instructions. The results from the questionnaires show that 80% of the respondents did not notice the signboard installed and 53% of the respondents agreed to have the road routes changed from scheduled one-way direction to full-time one-way direction. The recommendation of this study is to resize the signboard to an appropriate size so that it can be seen by road users from a sufficiently further distance. Furthermore, the statistical results of this study were provided to JKR Kuantan for further action.

## INTRODUCTION

The increasing number of vehicles on the roads poses a significant challenge to traffic management, as it becomes crucial to regulate traffic and prevent accidents while utilizing existing road infrastructure efficiently [1]. Currently, one-way road networks offer an effective solution for maintaining a smooth flow of vehicle traffic. However, it is important to explore alternative approaches as one-way roads may not always be the optimal solution [2]. In this context, understanding the advantages and limitations of one-way traffic becomes essential.

One-way traffic systems offer several benefits, including increased travel speeds, shorter transit duration, simplified coordination of signalized intersections, reduced conflicts with pedestrians, and easier left turns [3]. These advantages play a pivotal role in alleviating traffic congestion. However, the implementation of one-way traffic systems often relies on past experiences, leading to emerging challenges that need to be addressed [4]. To overcome these challenges, it is crucial to evaluate the effectiveness of one-way traffic schemes based on various factors such as traffic compliance, safety, economy, comfort, and environmental impact [5].

Converting existing two-way roads into one-way roads can offer economic, convenient, and efficient solutions to mitigate traffic congestion over long distances [6]. Such transformations require careful consideration and assessment of abstract elements, eventually leading to the development of effective implementation measures for the traffic control department [7]. However, the success of such transformations heavily relies on the adherence of road users to the designated one-way directions.

A study conducted on Jalan Indera Mahkota 5 in Kuantan, Pahang, explored the implementation of a one-way road system to regulate traffic flow during peak hours, primarily driven by parents sending and picking up their children near schools. Despite the implementation, some road users displayed non-compliance with the one-way