

UNIVERSITI TEKNOLOGI MARA

**DEVELOPING A CONCEPTUAL
MODEL OF DRIVING SIMULATION
WITHIN THE DILEMMA ZONE AT
SIGNALISED INTERSECTION**

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AUTHOR'S DECLARATION

I declare that the work in this thesis was carried out in accordance with the regulations of Universiti Teknologi MARA. It is original and is the results of my own work unless otherwise indicated or acknowledged as referenced work. This thesis has not been submitted to any other academic institution or non-academic institution for any degree or qualification.

I, hereby, acknowledge that I have been supplied with the Academic Rules and Regulations for Post Graduate, Universiti Teknologi MARA, regulating the conduct of my study and research.

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ABSTRACT

There are many driving simulations software was developed to study driver behaviour, but only a few were designed to research driver compliance behaviour within the dilemma zone at signalised intersection. Most of the studies stated that driver behaviour was affected by distance, road environment, characteristics, and traffic rules. Therefore, video observation and survey methods proceeded to examine, search, and find a relationship between the driver compliance behaviour and distance within the dilemma zone at signalised intersection. The thematic analysis of video observation found themes that contribute to driver compliance behaviour, which are traffic situations and compliance behaviour. Also, the findings indicate there was a significant relationship between driver compliance behaviour and distance within the dilemma zone. This research developed a conceptual model of driving simulation within the dilemma zone at signalised intersection. Creating a simulation requires a precise understanding of its essential features and scope. Therefore, a conceptual model is needed, as it helps ease the development process because it consists of necessary knowledge, features and scope. The data and findings gathered help the development of components, processes, input, output and the content of the conceptual model. The conceptual model is verified by subject matter experts in the related field. All experts agreed that the conceptual model (1) has the essential elements and components, and (2) the processes were easy to understand and are interconnected to each other. In summation, the conceptual model establishes a complete view of the driving simulation in a simple briefed, which will help a non-computer literate person to understand the simulation better. The conceptual model would be able to assist and act as a reference point in the development process of driving simulation. Other researchers who wish to study driver behaviour with a different scenario or driving environment can use this conceptual model as a reference to build a driving simulation.

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