

Universiti Teknologi MARA

**Analytic Hierarchy Process (AHP)
Approach to Determine the Triggers of
Road Accidents in Perlis**

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STUDENT'S DECLARATION

I certify that this report and the research to which it refers are the product of my own work and that any ideas or quotation from the work of other people, published or otherwise are fully acknowledged in accordance with the standard referring practices of the discipline.

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ABSTRACT

The number of road accidents fatalities in Perlis is increasing tremendously day by day. The development in motorization sector leads towards road accidents cases. The problems of road accidents are extremely in critical state even though various preventive measures have been taken to reduce the rate of road accidents. Thus, the actual factors and subfactors that contributed to the road accidents must be identified clearly in order to make sure the preventive measures operate successfully. The rank of factors and subfactors of road accidents also need to be determined based on the weight obtained. Therefore, a method called Analytic Hierarchy Process (AHP) was implemented in discovering the triggers of road accidents in Perlis. Questionnaires were given to three experts who have experience in dealing with road accidents in Perlis. These experts are traffic police inspector, an officer from road transport department and an officer from the fire brigade department. The pair-wise comparisons were rated by the experts according to Saaty scale from one to nine. In order to obtain result of each factor and sub-factor of the road accident, the comparison scales are averaged before proceeding to other steps. Among the factors of road accidents, human behaviour is the most affecting factor towards road accidents cases, followed by environment and vehicle. For the subfactor of human behaviour, driving drunk or under the influence are the causes of road accident. Weather condition falls in the first rank of environment subfactor. Finally, brake failure represented under vehicle subfactor which was the most influencing factor for the road accident cases.

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