

UNIVERSITI TEKNOLOGI MARA

TECHNICAL REPORT

**HOUSING AREA SAFETY EVALUATION
(HASE) BASED ON FUZZY GREY THEORY**

P06M19

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**Report submitted in partial fulfilment of the requirement
for the degree of
Bachelor of Science (Hons.) Management Mathematics
Faculty of Computer and Mathematical Sciences**

JULY 2019

ACKNOWLEDGEMENTS

IN THE NAME OF ALLAH, THE MOST GRACIOUS, THE MOST MERCIFUL

First of all, we would like to express our gratitude to Allah SWT for giving us a chance to complete this research journey and we would like to truthfully thank our supervisor, Dr Khairul Anwar Rasmani, who gave us the opportunity to conduct this project on housing area safety index based on Fuzzy Grey Theory, which also helped us in doing a lot of researches and we managed to learn and investigate about a lot of new things and we felt really thankful to them.

Furthermore, we would like to thank the respondents of the selected housing area for giving their cooperation by answering the questionnaires given for our project.

Lastly, we would also like to thank our parents and teammates for their encouragement, support and willingness in contributing to complete this project. Without a great teamwork, our project is not likely to be completed in time.

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ABSTRACT

Safety evaluation in housing area is very important to reflect the safety performance of the research. In this study, safety evaluation is proposed based on Fuzzy Grey Theory (FGT) and Analytical Hierarchy Process (AHP) to determine the level of safety at the selected housing areas. The purpose of this study is to create safety evaluation for housing areas based on AHP and FGT and implement the proposed method to determine the level of safety at selected housing areas. There are some phases to determine rankings and safety evaluation at the housing areas. Starting from the first phase, which is to determine the weight for each criterion by using AHP method, followed by determining the safety level based on FGT. Then, safety evaluation for selected housing areas is determined by using comprehensive weight of the FGT results from the earlier phase. Once the calculation has been completed, safety levels are obtained, and the results are later validated by experts. The finding shows that the results are consistent with the expert opinion and it can be used by general public when choosing suitable houses for renting or buying new property.