

**OPTIMUM DESIGN OF ROAD HUMPS
IN RESIDENTIAL AREA**



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ABSTRACT

Speed hump is the most popular traffic calming device that has been installed in residential area in Malaysia. But, do these existing speed humps effective in controlling the road speeding? Data are collected using Speed Radar Meter Detector. Two sets of data are collected i.e. speed before reaching the hump (at 30m before the device, this is due to safe stopping sight distance) and speed over the hump for both motorcycles and cars. Data are collected for one hour or at least 50 vehicles at three locations. The data are then analyzed by using SPSS. The effectiveness of the humps is measured by comparing the reduction in speed before and over the hump. The effectiveness of the existing speed humps are also influenced by the profile of the devices. A model equation was developed based on three road humps profile observed in order to determine the best optimum design among the three humps. Further investigation is needed in order to develop better model for optimum design of road humps.

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CHAPTER ONE

INTRODUCTION

1.1 Problems Statement

The major purposes of installing speed humps in residential area are to reduce the vehicles speed and to ensure the safety of the pedestrians and all road users. But, do these existing speed humps effective in controlling the road speeding? Do the speed limit of 25 km/h displayed on the road signage in the residential area effective enough? Through researchers' observations, pedestrian have to wait quite a lengthy time to cross the road especially during the peak period. There is no comprehensive studies have been carried out to ensure the effectiveness of speed humps in reducing speed in Malaysia. From discussion with local authorities and practical traffic engineer, it has been found that, these measures are implemented in an ad-hoc basis without any proper standard or guidelines, but purely on the basis of the experiences of the engineer and request from the public. As such the following problems normally arise:

- No standard design of geometric of the hump – same devices with different dimensions.
- Unsuitable location of devices installed – for example it can be too close to a junction.