UNIVERSITI PUTRA MALAYSIA

CONFLICT COUNT BETWEEN SCHOOL CHILDREN AND MOTORIZED TRAFFIC AROUND TRAFFIC-CALMED SCHOOL AREAS

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CONFLICT COUNT BETWEEN SCHOOL CHILDREN AND MOTORIZED TRAFFIC AROUND TRAFFIC-CALMED SCHOOL AREAS

By

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August 2010

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In Malaysia, police statistics data reveals that the number of child pedestrian casualties in the vicinity of schools showed a decreasing trend from 1995 up to year 2004. Despite the decrease trend, more efforts should be put to further reduce the number of school children casualties. One of the ways is through appropriate engineering interventions that modify the built environment around school areas to promote safe travel to and from schools. The built environment around schools in Malaysia varies from school to school which offers different ways of protection to school children on the road. As such, the effects of the different built environment to the safety of school children need to be examined in order for appropriate treatment to be identified.
This study adopted the use of traffic conflict technique to examine the effects of different built environment in the vicinity of schools. The main objective of this study was to examine the effects of various built environment on the rate of conflict between school children and vehicular traffic at traffic calmed schools. In order to achieve the main objective, statistical models were developed and the traffic flows criteria for the provision of interventions were established. A total of 50 study sites in Serdang, Seri Kembangan, Kajang, Bangi and Cheras were included in this study. The generalized linear modeling with Poisson distribution was used to develop the models.

The final models revealed that vehicle-pedestrian flows, road width, presence of sidewalks and traffic wardens were significant in explaining the conflict counts. Other built environment variables such as vehicle approaching speed, presence of zebra crossing and types of land use were not significant. Presence of traffic warden had the highest effect on the variation of conflict counts.

The models developed in this study can be used to predict the expected number of conflict counts per hour happening near the entrance of schools. The traffic flows criteria established from the models can be used as a guide on the implementation of appropriate interventions in the vicinity of schools.
Abstrak tesis yang dikemukakan kepada Senat Universiti Putra Malaysia sebagai memenuhi keperluan untuk ijazah Master Sains

BILANGAN KONFLIK DI ANTARA KANAK-KANAK SEKOLAH DAN KENDERAAAN BERMOTOR DI KAWASAN SEKOLAH DENGAN RAWATAN PENENANGAN TRAFIK

Oleh

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Berdasarkan model yang telah dibentuk, didapati aliran kenderaan-pejalan kaki, lebar jalan, laluan pejalan kaki dan warden trafik mempunyai kesan signifikan ke atas kadar konflik. Pembolehubah lain yang turut dipertimbangkan dalam pembentukan model tetapi didapati tidak signifikan adalah seperti laju kenderaan, lintasan pejalan kaki dan jenis guna tanah. Warden trafik didapati mempunyai kesan yang paling tinggi dalam mempengaruhi kadar konflik.

Model-model yang dibentuk dalam kajian ini boleh digunakan untuk meramal kadar konflik di kawasan persekitaran sekolah. Kriteria aliran trafik yang ditentukan pula dapat digunakan sebagai panduan kepada pihak berkuasa untuk merancang jenis rawatan yang diperlukan di kawasan sekolah.
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I certify that a Thesis Examination Committee has met on 11/08/2010 to conduct the final examination of Alvin Poi Wai Hoong on his thesis entitled “Analysis of Conflict Count Between School Children and Motorized Traffic Around Traffic Calmed School Areas” in accordance with the Universities and University Colleges Act 1971 and the Constitution of the Universiti Putra Malaysia [P.U.(A) 106] 15 March 1998. The Committee recommends that the student be awarded the Degree of Masters of Science.

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DECLARATION

I declare that the thesis is my original work except for quotations and citations which have been duly acknowledged. I also declare that it has not been previously, and is not concurrently, submitted for any other degree at Universiti Putra Malaysia or at any other institution.

ALVIN POI WAI HOONG

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