

PW 0821

THE EFFECT OF LOWERING RESIDENTIAL SPEED LIMITS TO 30 KM/H ON CHILD PEDESTRIAN INJURIES IN TORONTO, CANADA

^{1,2}Liraz Fridman*, ¹Linda Rothman, ²Brent Hagel, ¹Andrew Howard. ¹Hospital for Sick Children, Toronto, Ontario, Canada; ²University of Calgary, Calgary, Alberta, Canada

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Background Road traffic injury is the leading cause of death for children in Canada. Lower speed roads are correlated with lower pedestrian injury severity. Pedestrians are 8 times more likely to die after being struck by a motor vehicle going 50 km/h compared with 30 km/h. Few studies have examined the effect of speed limit reductions on vulnerable road users such as bicyclists or pedestrians. Given the recent increase in the number of pedestrian motor vehicle collisions (PMVC) in Toronto, it is important to describe the effectiveness of interventions such as speed limit reductions.

Objective To examine the effect of lowering residential speed limits to 30 km/h on police reported child PMVCs in Toronto, Canada between 2014 and 2018.

Methods We will investigate the influence of implementing 30 km/h speed limits on 387 km of residential streets that occurred in January 2015. We will calculate the number of police reported child PMVC per km per month along these streets for two years before and two years after the speed limit change. We will use comparator streets with a constant 40 or 50 km/h limit to isolate the effect of the intervention from that of secular trends, controlling for other built environment characteristics (e.g., speed humps, pedestrian crossovers).

Expected findings We hypothesize that the rate of PMVC will decrease after the implementation of 30 km/h speed limits.

pedestrian safety, including speed limit reductions. It is important to evaluate and quantify the effect of these changes on child pedestrian injury rates.

Policy implications Results may provide evidence to support the implementation of speed reductions to make our roads safer.

PW 0834

ABSTRACT WITHDRAWN

PW 0871

DEVELOPMENT OF MOHANAMAI NETWORK FOR IMPROVING ROAD SAFETY IN THE COMMUNITIES: LESSON AND SUCCESS OF THAILAND

Boonruang Khaonuan*. *Thaksin University, Thailand*

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Thailand has the second highest road traffic fatality rate in the world. Therefore, it is extremely necessary to develop existing systems and build a new mechanism so as to deal with subsequent challenging this problem. The objective of this study is to strengthen the network for management of improving road safety in the communities. The target group includes leaders of Mohanamai Network at the provincial level nationwide, community leaders, and general public in the community. The implementation has been made by means of the information meeting, knowledge sharing, community

forum, community-based activities, information retrieval, conclusion, and lessons learned. The implementation period took 13 months from December 2016 – December 2017. The results of the study revealed that Mohanamai is a group of primary public health personnel who take a very significant role in developing the community health system. The said Network gains supports from Thai Health Promotion Foundation and Ministry of Public Health for campaigns, public relations, and community forums for purpose to reduce road traffic injury. In this regard, the information retrieval and knowledge management are the research instruments used for solving road traffic problems at the local level, creating new body of knowledge, especially in road safety culture. Mohanamai Network Project is carried out by means of learning by doing and participatory learning. The arrangement of knowledge sharing forums at both provincial and local level does not only support mutual learning, but also enables other networks to be connected for mutual learning for purpose of dealing with road traffic injury in the community until risk factors become decreased, resulting in various community prototypes for reduce road traffic injury all over Thailand.

PW 0873

PREDICTING THE OPERATING SPEED OF FOUR-LANE HIGHWAYS BASED ON SIMULTANEOUS USAGE OF GEOMETRIC AND ROADSIDE FEATURES

¹Babak Mirbaha*, ¹Behzad Bamdad Mehrabani, ²Seyed AmirHossein Beheshti. ¹Imam Khomeini International University, Qazvin, Iran; ²Islamic Azad University (Zanjan Branch), Zanjan, Iran

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Speed is one of the most important issues that affect rural highways' safety. Many researchers have reported that an increase in vehicles' speed is accompanied by the increase of accident severity and probability of accidents occurring. Many models had been presented in previous studies to predict operating speed in four-lane highways. Most of these works had only used the geometric feature as the independent variable, with few of them conducted using roadside features to predict operating speed. Thus, the objective of this study is to propose a model which predict the operating speed of four-lane highways based on geometric and roadside features simultaneously. More than 13 800 spot speed data were gathered in tangent and curve segments in Kole jub-Borujerd and Borujerd-Khorramabad multilane highways in Iran and a linear regression model is developed with acceptable R-Square (0.779). The results showed that segment length, guardrail median, flat roadside configuration, and posted speed limit have a positive effect on operating speed; while, slope, the number of access, and the length of adjacent land use have a negative effect on operating speed. the coefficient of these variables indicated that the length of the adjacent land use has the greatest value (−7.435) and the sensitivity analysis demonstrate that a 500-meter increase in the length of the adjacent land use leads to almost 4 kilometers per hour decrease in operating speed. Therefore, this paper indicated that not only geometric features affect operating speed but also roadside features have a significant effect on operating speed. The outcomes of this study can be useful in design and safety planning studies of rural multilane highways.