

Title: UNDERSTANDING AND USING SIGNALIZED CROSSINGS IN AUSTRALIA: THE PEDESTRIAN'S PERSPECTIVE

Presenting Author: Narelle Haworth

Authors: N. Haworth 2;K. M. Titchener 1;N. Brayley 2;

Affiliation

1. School of Psychology, Griffith University, Queensland, Australia, 2. CARRS-Q, Queensland University of Technology, Brisbane, Australia,

Abstract:

Pedestrian fatalities in developed countries comprise between 11% (USA) and 22% (Great Britain) of all road fatalities. This figure is much higher in developing countries where pedestrians comprise a large proportion of the road fatalities, with estimates ranging from 39% in Tanzania to 75% in Cote d'Ivoire. Observational research tells us how pedestrians behave while crossing the road but fails to tell us why pedestrians may adhere to or ignore signals at pedestrian crossings. The way in which pedestrians evaluate signalized crossings, how they perceive the signals, and how they choose to make use of the information presented is not well documented. The views of Australian pedestrians towards signalized pedestrian crossings are presented here.

Numerous factors have been suggested to influence pedestrians' road crossing decisions, including; age, gender, waiting time before green, crossing location, and understanding the right-of-way rules. It is also necessary to establish what pedestrians believe the crossing signals mean and how they choose to act on them.

A survey was designed to provide pilot data with the aim of better understanding pedestrians' crossing decisions at signalized crossings. 341 pedestrians (age range 18-64 years) who visit inner-city Brisbane, Australia, at least once a week responded to the online survey.

Results identified good levels of understanding for the steady red figure (do not cross) and the flashing red figure (do not commence crossing) with 96% and 95% respectively selecting the correct meanings. Although respondents believed they had a good to excellent understanding of the steady green figure (cross with care watching all traffic) only half the respondents (54%) selected the correct meaning. Adherence to the visual signals varied between different age groups with younger respondents more likely to cross against red signals than older respondents. In addition to watching the pedestrian signals while waiting to cross the road a number of other cues were highlighted, including watching the traffic signals and watching the vehicles themselves. Twelve percent of respondents stated they would cross during the red phase if an opportunity arose even though this behaviour is illegal in Australia. Adherence to pedestrian signals was also influenced by the respondent's mood, traffic volume, the presence of children and other pedestrian's behaviour.

Levels of patience were highlighted as particularly important. For example, 77% of respondents stated that they would cross inappropriately if the red signal (don't commence crossing) begins to flash when they approach a crossing (rather than wait for the next green phase). Respondents were asked how long they would wait for a green walk phase before feeling impatient. Almost half (43%) indicated that they would wait for up to 60 seconds and 17% indicated being prepared to wait between one and two minutes before feeling impatient.

Jerusalem, Israel, May 30-June 2, 2010

Of further interest were respondents' perceptions of risk associated with crossing the road while engaged in distracting activities such as mobile phone use or listening to MP3 players. Older respondents generally felt such distractions were riskier than the younger respondents and reported engaging in these activities less while crossing the road.

In summary, the results have highlighted issues that may increase pedestrians' risk while using signalised pedestrian crossings. For example, the length of waiting times before green phases can result in pedestrians choosing to employ their own crossing strategies and failing to adhere to the signals. Further, younger pedestrians were more likely to cross against the signals and to cross while engaged in potentially distracting activities such as mobile phone use than older pedestrians. The results also support previous international research suggesting that pedestrians are misinterpreting the green Walk signal to mean that they have the right-of-way and do not need to engage in precautionary behaviours such as checking for vehicles.

These results will guide the development of a larger survey to fully investigate pedestrians' perceptions towards crossing signals currently in use in Australia. Identification of the way pedestrians are using signals alongside other information in their environment to inform their road crossing decisions will contribute to a broader knowledge base on which to build education campaigns or redesign signal technology or practices.