To Cross or Not to Cross, That is the Question:

The Influence of Mobile Device Alerts on Road Crossing for Texting Pedestrians

Abstract

Pedestrian injuries and deaths caused by motor vehicle collisions are a major public health concern. In the U.S., the number of pedestrian fatalities increased by 19% from 2009 to 2014, and based on initial reports are estimated to have increased by an additional 10% in 2015. While these increases are likely do to a variety of factors, a mounting body of evidence points to distraction caused by pedestrian use of mobile technology as a key risk factor. This talk will presents the results of two experiments conducted in an immersive pedestrian simulator to evaluate how texting pedestrians cross streams of traffic and compare two different approaches to deliver traffic information to pedestrians. The first experiment examined alerts that informed the participant when it was safe to cross; the second experiment examined alerts that warned a pedestrian when they were crossing a dangerously small gap. In both experiments, texting participants with alerts made safer crossings than texting pedestrians without alerts. However, participants who received alerts also paid much less attention to the roadway. The results demonstrate the potential gains and pitfalls of assistive technologies based on Vehicle-to-Pedestrian (V2P) communications technology for mitigating pedestrian-motor vehicle crashes.