

# Parameters Analysis for an Intersection Bus-Pedestrian Collision Warning System

張建彥, Ting-Wei Chang

Transportation Technology and Logistics Management  
Management

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## Abstract

Utilizing advanced technologies to guarantee safety protection for pedestrians at intersections has become an important issue because intersections are the places where pedestrians easily conflict with vehicles. The purpose of this study is to propose a conceptual design of an intersection bus-pedestrian collision warning system with appropriate detection and warning parameters for bus drivers approaching an intersection. Based on the design concept, bus drivers' perception-reaction time, emergency deceleration rate of buses, and pedestrian walking speed are defined as the basic parameters. A bus driving simulation is designed and conducted to collect bus drivers' responses to the suddenly crossing pedestrians at unsignalized intersections or signalized intersections with green interval for parameters analysis. Finally, the warning timings for auditory warnings and visual warnings, the locations for vehicle detectors and pedestrian detectors, and the locations for visual warning devices are developed through a further analysis of the experimental results.

Keyword : Pedestrian, Intersection, Bus, Collision Warning System, Parameter.