The Study of Interactive Model of Intelligent Pedestrain

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ABSTRACT

Traffic control often planed for vehicle. When drivers had mistake or an improper act, it will cause traffic accidents. The interactive model of intelligent pedestrian was developed in this study to decrease accidents cause by drivers ’ improper acts. Warning information is provided to improve pedestrian security. Information of human、vehicle and road systems are investigated. Questionnaire is utilized to study environment effect and the requirements. Then the concept were implemented through system flowchart and block diagram. The major findings are 1.The security of walker is related to the amount of information traffic facilities could supply. 2. The direction of car, night-illumination are important part of warning signal. 3. When traffic load is heavy, the requirement of pedestrian single is increased. While speed of motor vehicle is unreasonable fast, the bumper is helpful to prevent accident. An interactive system included sensor、output subsystems and user interface were implement. The major features are (1) night-illumination (2) sounds and lights warning to point out cars ’ direction and distance (3) sounds and lights could point out before pedestrian single change (4) while high-speed vehicle approach pedestrian, it warned drivers by bumper to make the vehicle slow down.

Keywords : intelligent ; interactive model ; pedestrian

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REFERENCES

【1】 中華智慧型運輸系統協會網站, 「何謂智慧型運輸系統(Intelligent Transport Systems,ITS) 」 【2】 陳宗淋, 「臺北市行人肇事及違規特性分析」, 國立交通大學交通運輸研究所, 民89 【3】 台北市政府警察局交通警察大隊統計資料 【4】 Ron van Houten & J E Louis Malenfant, ” ITS animated LED signals alert drivers to pedestrian threats ” Institute of Transportation Engineers.ITE Journal, Washington, Jul 2001 【5】 蘇少奕, 「巷道人車衝突評估指標與服務水準之建立與應用」, 國立臺灣大學土木工程學研究所, 民91 【6】 謝智仁,

「道路暴力行為意向之研究」，國立交通大學運輸科技與管理學系，民91 【7】 許清皓，「道路分隔島頭之研究」，逢甲大學交通工程與管理研究所，民90 【8】 OGLE TERRY B, ”Cross-walk warning light system”, US5559509，1996-09-24 【9】 MOBERLY LOREN G & MOBERLY SCOTT A & FULTON CHARLES E, ”Pedestrian crosswalk switch”, US5767465，1998-06-16 【10】 HIROSE AKIHIRO& OGAWA TOSHIHIKO, ”LIGHTING SYSTEM FOR CROSSWALK FOR PEDESTRIAN”, JP10283807，1998-10-23 【11】 ARNOLD STEPHEN HENRY, ”Pedestrian crossing indicators”, GB2341712，2000-03-22 【12】 MASAKI ICHIRO & TAKAGI MASAHITO, ”Traffic system to prevent from accidents”, US6472978，2002-10-29 【13】 兵界力，「無障礙行人號誌使用者需求及控制績效評估之研究」，中央警察大學交通管理研究所，民89 【14】 交通部運輸研究所，「交通政策白皮書－運輸」(91.04.10) 【15】 Thomas L Jones & Patrick Tomcheck , ”Pedestrian accidents in marked and unmarked crosswalks: A quantitative study”, Institute of Transportation Engineers.ITE Journal, Washington, Sep 2000 【16】 YANAI TATSUMI , ”Vehicle obstacle warning system and method”, EP1233390，2002-08-21 【17】 BORTOLOTTO PERSIO WALTER , ”Device for traffic signalling equipment”, EP1050865，2000-11-08 【18】 RUSSELL WAYNE L & CRUZ RANDY VAN & MCGAFFEY JOHN F , ”Pedestrian push button assembly”, US6466140，2002-10-15 【19】 WADA RYOJI , ”CROSSWALK SYSTEM WHICH ANNOUNCES THE PRESENCE OF CROSSWALKER”, JP6299519，1994-10-25