弱勢用路人保護與公車優先號誌設計與模擬

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摘要

According to the aging trend in Taiwan, the mobility and accessibility of elder persons are getting more and more attention. Not only the mobility and accessibility of elders are getting more attention, but the mobility and accessibility of children and disability are also getting more attention. Actually, vulnerable individual protection service (VIPS), which improves the mobility, accessibility and safety of vulnerable individuals, is one user service in the national system architecture of intelligent transportation system of Taiwan. In this study, the scope of vulnerable individual is restricted to elders, children and disability. We try to develop a priority strategy for traffic signal to protect vulnerable individual when they pass through intersections. However, if we only consider the priority of the vulnerable individual, the total delay of the intersection and the level of service of the intersection may become unacceptable. Therefore, an intelligent traffic signal system will be developed for vulnerable individual in this study. A prototype of intelligent intersection and vulnerable individual system will be presented by combining automatic detection of vehicle identification techniques, incident detection and warning system and intelligent traffic signal strategy. The proposed traffic signal logic will consider both the safety of vulnerable individual and the level of service of the intersection. Also, scenarios of simulation are investigated to compare the logic and strategies so as to adjust and fine-tune the logic and signal timing.

關鍵字：vulnerable individual protection service, preemptive signal, signal logic, simulation of signal timing.