

THE APPLICATION OF COOPERATIVE SYSTEMS TO SUPPORT THE MOBILITY OF PERSONS WITH DISABILITIES

Sadko Mandzuka
Intelligent Transport System Department
Faculty of Transport and Traffic Sciences - University of Zagreb
Vukelićeva 4, 10000 Zagreb, smandzuka@fpz.hr

Summary: In Cooperative Traffic Systems vehicles communicate wirelessly with other vehicles, infrastructure (roads and related equipment) and other users (pedestrians, VRU, etc.). Compared to existing systems, cooperative systems technology allows two-way communication: V2V - Vehicle to vehicle, V2I - vehicle infrastructure V2U-vehicle with other users (eg. VRU), I2U - infrastructure with other users (eg. VRU). This approach is closer to natural communication of multiple users in any business. In this way, the possibility of building social intelligence is realized.

Keywords - Intelligent Transport Systems, Cooperative systems, Control algorithms, Development of innovation.

References:

- [1] I. Bošnjak, *Inteligentni transportni sustavi 1*, Fakultet prometnih znanosti, Zagreb, 2006.
- [2] I. Bošnjak, S. Mandžuka, Lj. Šimunović, Mogućnosti inteligentnih transportnih sustava u poboljšanju stanja sigurnosti u prometu, Zbornik radova: Nezgode i nesreće u prometu i mjere za njihovo, Hrvatska akademija znanosti i umjetnosti, Zagreb 5 (2007).
- [3] P. Škorput, S. Mandžuka, N. Jelušić, Real-time detection of road traffic incidents, *PROMET-Traffic&Transportation* 22 (4), 273-283
- [4] I. Bošnjak, S. Mandžuka, Lj. Šimunović, Mogućnosti inteligentnih transportnih sustava u poboljšanju stanja sigurnosti u prometu, Zbornik radova: Nezgode i nesreće u prometu i mjere za njihovo, Hrvatska akademija znanosti i umjetnosti, Zagreb 5 (2007).
- [5] Lj. Šimunović, I. Bošnjak, S. Mandžuka, Intelligent transport systems and pedestrian traffic, *PROMET-Traffic&Transportation* 21 (2), 141-152, 2009
- [6] Škorput, P., Stvarno - vremensko upravljanje incidentnim situacijama, magistarski rad, Fakultet prometnih znanosti, Zagreb, 2009.
- [7] Mandžuka, S., Matulin, M., Škorput, P., Napredna telematička rješenja za žurnu medicinsku pomoć, Znanstveni skup: Medicinski, tehnički i pravni aspekti sigurnosti prometa, Hrvatska akademija znanosti i umjetnosti, Zagreb, 2009.
- [8] S. Mandzuka, Z. Kljaić, P. Škorput, The Use of Mobile Communication in Traffic Incident Management Process, *Journal of Green Engineering* 413-429, 2011.