

Specification and Assessment of Different Intersection Assistance Concepts Based on IVC (Inter-Vehicle-Communication) and RVC (Roadside-Vehicle-Communication)

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ABSTRACT

An approach for intersection assistance, which is based on IVC (Inter-Vehicle-Communication) and RVC (Roadside-Vehicle-Communication), is described in this paper. Different technology scenarios, which cover a wide time horizon and a wide area of system complexity, are analyzed in a realistic traffic simulator and assessed concerning the expected user acceptance as well as the system's effect on traffic safety. The starting point of the technology concepts is the up-to-date communication technology. The simulation results show that the most important parameter regarding the specification of necessary communication technology is the communication range. The equipment rate of intersection assistant systems has the greatest contribution to reduction of intersection accidents. Based on the simulation study two technology concepts for IVC and RVC based intersection assistance are recommended.