

Investigating the Functionality of Different Human Machine Interfaces for Cooperative Adaptive Cruise Control

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Abstract: Cooperative-Adaptive Cruise Control (C-ACC) systems are seen as the potential technology to increase capacity and safety within Intelligent Traffic Systems (ITS). In this research, the interaction mediums of the driver for both advisory and autonomous platforms are investigated. Two different advisory and automated frameworks with three different interfaces including the graphical, haptic and Head Up Display (HUD) are studied. It is shown that the designed advisory interfaces do not contribute in significant speed variation during the cruise driving. While for the autonomous cooperative cruise control, the designed HUD interface results in noticeable reduction of the human intervention with not a significant change in the mental work.

Keywords: Cooperative Adaptive Cruise Control, Human Machine Interface, Visual Feedback
