

Different Ways to Compensate Distraction while Using a Hands-Free Telephone in a Vehicle

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Secondary tasks are a main source of distraction while driving in a vehicle. For instance, using a hands-free telephone is known to lead to a worse reaction time in unexpected situations. On the other hand, examinations, especially in simulators, show that driver compensate these disadvantages by driving slower or keeping a larger distance to the car in front.

In this study, data collected in a field operational test (FOT) on navigation systems in the euroFOT project are used to examine the effects of using a hands-free telephone in the car. As the drivers were completely free in using their telephone in the FOT, the study can be considered as a naturalistic driving study (NDS) for the interested aspect. CAN-data of approximately 100 drivers, (40.000 trips, and one million kilometres) are used for the analysis. Results found in the analysis of ND-data are compared to results from experimental examinations e.g. in simulators or on test tracks.

Different aspects of driving while using the hand-free telephone are analysed, like speed and distance behaviour or lane keeping. Additionally, other aspects of potential compensatory behaviour are analysed with the ND-data. For instance, drivers can avoid complex situations while using their telephone (e.g. lane changes) as well as avoid telephoning in demanding driving situations (e.g. at high speeds).

The results give insight into how drivers integrate hands-free telephoning and driving during their daily drives. This enlarges the knowledge about secondary tasks like telephoning in the vehicle and how the drivers handle the distraction connected to these tasks.

Category: non-paper presentation