



Editorial

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This issue moves from articles related to questions of sustainable transport to the behaviour, and behavioural problems, of car drivers and ends with one paper that discusses the quality of a driver assistance gadget. To start with, Maryam K. Gilak and Alper Cebeci present an *Environmental, financial, and accessibility analysis of low-density high-value goods shipment, pointing out that* most chemical goods in the EU27 countries were transported via road. They remind of the fact that road transport produces considerably more CO₂ than railway transport and that its cost is significantly higher than rail. To mitigate these problems four railroad intermodal scenarios are suggested and hypothetically evaluated.

Moving to person transport, Sena Çinar, Şerife Yilmaz and Bahar Öz carried out field work to study *Pedestrians' Crossing Behaviors and Crossing Preferences*. With the help of an on-line survey and observations they explored pedestrian behaviour at a specific crossing site in Ankara, in order to understand behaviour, perceptions, and crossing preferences of pedestrians. They tried to identify safety-critical situations and to offer appropriate countermeasures. Not surprisingly, the biggest problems turned out to be vehicle traffic and parking vehicles. Infringements of rules by pedestrians were observed, as well. The majority of the pedestrians tend to jaywalk. Suggestions for appropriately arranging crossing facilities according to pedestrian preferences should result as a consequence of the study. The authors argue that proper design of facilities and management of traffic would encourage safe walking without sacrificing comfort: e.g., by reducing vehicle traffic, by managing parking more appropriately, and by increasing the number of pedestrian facilities.

How about *the Relationship Between Cycling Behaviour, Attitude to Traffic and Attitude to Daily Life of Junior and Senior High School Students*? Yoshio Taniguchi, Shunji Taniguchi and Kazunori Shidoji dealt with this question in order to explore underlying psychological determinants. A survey involving 2077 junior and senior high school students showed, not surprisingly so, that low levels of safety orientation in their attitudes correlate with de-facto risky behaviour. Social desirability of their behaviour was less important to this group and they tended to use their bicycle in a more risky way, more concretely meaning distracted rapid cycling, which also was related to more frequent experiencing of near accidents. As these findings were similar to those derived in studies on car drivers, the authors concluded that similar educational measures as those for car drivers could have positive effects. They even suggest that traffic safety education for junior and senior high school students as cyclists could be effective for their later career as car drivers.

Now to safety aspects connected to the behaviour of car drivers. Siva Matikana and B. Raghuram Kadali evaluated *Vehicle Speed with Impact of Driver Behaviour at Horizontal Curves*. In their study they could show that curve radius, number and types of vehicles in the opposite lane, and shoulder width all have significant effects on vehicle speeds in

curves. The authors consider these findings useful for the design of the horizontal alignment of curves.

Another safety aspect is related to DUI issues. Eva Šragová, Kateřina Bucsuházy, Lukáš Kadula, Martin Šípek nad Jiří Ambros asked whether there are *Sex differences in driving under the influence: What can we conclude from accident data and the point system?* ~5% of road accidents in the Czech Republic between 2012 and 2020 were due to driving under the influence (DUI) of alcohol and/or other addictive substances, accounting for more than 10% of the fatalities. 95% of these accidents were caused by males. Using data from the penalty point system, the study revealed that inebriated males most frequently got involved in crashes in combination with speeding, while females lost control of their vehicle (obviously without speeding as a contributing factor, according to police recordings). A group of experts regularly involved in rehabilitation programs for drivers with suspended driving license discussed the study results and possible ways to mitigate DUI problems.

As driving under the influence of alcohol is one of the greatest traffic safety problems, Thomas Wagner, Don DeVol, Bettina Schützhofer and Ilka Rethfeldt looked for factors predicting alcohol use disorders, namely *Blood alcohol concentration, drinking history, and sociodemographic factors ... among "hard core" offenders in Germany*. They co-analysed traffic related alcohol problems (TRAP) with and without alcohol use-disorders and outcomes of medical-psychological assessments. They concluded that one should consider a BAC of 0.11% upwards as a parameter for the identification of traffic safety-impairing drinking patterns. Their study also indicated that, in addition to the BAC, severity of TRAP increases with higher age, a larger number of drinking days, higher amounts of alcohol consumption at different occasions, and the use of alcohol "against stress and tension". The authors provide recommendations for the re-issuing of the drivers' licence.

At the end of this issue of TOTS you find the paper by Aleš Mareška, Tereza Kordová and Martin Havlík Míka, dealing with the *Production of (a) Head-Up Display windshield and its relation with the image quality*, obviously a gadget that should support safe driving. They pone that the windshield can be considered a display, where information to the driver can be provided, in order to function as a head-up display (HUD). The driver sees this information without having to move head and eyes away from the road. However, safety effects are undermined in case of double images ("ghosting"). The authors summarise and compare different production technologies aiming to optimise quality of the HUD image. The key findings of this study should be advantageous both, for the end customer – the car driver – and the developers of HUDs integrated in windshields.

There is common agreement that sustainable modes of transport should be enhanced. One of the goals connected to this is to replace car trips where feasible. This process takes time and the car will continue to function as an important mode of transport. Thus, it is also important to deal with ways to enhance a safe use of the car. These arguments are mirrored by the combination of papers in this issue of TOTS.