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Convention on Road Traffic (1968)

Human factors and automated driving as key issues for future road traffic

Submitted by the Government of the Netherlands

This document has been submitted to promote further discussions about the topic of optical and/or audible signals in DAS and ADS vehicles to indicate their status.

1. For the 85th session of WP.1, the Netherlands submitted an informal paper on ADS recognizability, in light of enforcement. The document's aim was to contribute to the discussion and (when there is enough support) to work towards a harmonized and uniform standard for recognizability that is workable for enforcement and prevents unwanted behavior from other road users. This new informal paper presents an update, including new insights, discussion points and issues to further aid the discussion. Again, the focus lies on ADS vehicles, though certain aspects might also apply to ADAS vehicles (in particular in light of the discussion on hands-off DCAS).
2. The proposal by the Netherlands to involve a group of experts from varying backgrounds still applies. For example, possible standards set by WP.1 could be further elaborated on and incorporated into harmonized vehicle regulations for ADS by WP.29 and its relevant working groups. We additionally ask member states/participants to coordinate with relevant colleagues on a national level (e.g. Ministry of Justice, Police, Public Prosecutor's Office), to confirm, reject, or add to the issues presented in this informal paper. We are aware that it is currently challenging to identify what is needed specifically for safe and proper enforcement, since ADS applications have yet to be introduced on a large scale to our public roads. Therefore, we aim for flexibility in this discussion, as preferences may change due to new insights.
3. Please note that this is an informal paper, and hence, does not present the official position of the Netherlands on ADS recognizability. Moreover, this paper provides a non-exhaustive list of considerations.

Discussion so far

4. The topic of ADS recognizability (or external signaling) has been discussed in several international (in)formal working groups.
5. Within WP.29, an advice regarding external signaling of ADS has been prepared, discussed and endorsed (please see the [report](#) of WP.29's 188th session). Amongst others, the advice stated that mandatory requirements for additional light-signaling devices under WP.29 are not recommended, beyond those requirements established for manually driven vehicles. Furthermore, it is a.o. recognized that means other than light-signaling may be suitable to achieve safety needs, or to enable proper enforcement. Continued monitoring of research into ADS signaling and the safety of interactions between other road users and ADS vehicles is advised.
6. The above mentioned conclusions do not provide a complete reflection of the endorsed advice, but point out the most important conclusions regarding recognizability from the perspective of enforcement.
7. The topic of external communication of ADS by any means of communication (a.o. as a tool to support enforcement activities) was also discussed during the FRAV/IGEAD workshop of 7-8 November 2022, held in The Hague. The topic came up as a 'shared interest' for FRAV and IGEAD. Further (concrete) steps have yet to be discussed.

Update

8. In discussion with our colleagues from the Ministry of Justice and Security, the Public Prosecutor's Office and the Police, the importance of recognizability of ADS was once again confirmed. In that regard, clarity on who is driving (system or human driver), is important and recognizability (or signaling) is therefore crucial.
9. An important aspect of the work of an enforcement officer is to understand who was in control in case of a (possible) offence: the human driver or the ADS. There should be no confusion in this matter. However, this might not always be clear nor straightforward. Depending on who is in control, and hence clarity for the enforcement officer who to address, recognizability and external signaling can become more (or less) relevant. This topic links to discussions on various stakeholder roles, that are relevant (or currently ongoing) in other working groups as well, such as GE.3 on LIAV.

10. Nevertheless, recognizability will be advisable in most cases. Situations where an enforcement officer must make a snap decision should be prevented as much as possible. From a practical perspective, it is likely that in numerous cases, no in-depth investigation will be started, e.g. in the case of a (relatively minor) speeding offence. Hence, in most cases, information must be readily available to the enforcement officer. This links to recognizability and signaling.

11. During the FRAV/IGEAD workshop of 7-8 November in The Hague, the option of a data signal was discussed. This option could be further explored, e.g. in terms of costs for enforcement officers (purchase of new equipment, update of existing equipment, training and education, etc.), practicality and side effects (is it indeed helpful for enforcement officers, how are other road users affected, etc.).

Other aspects to take into account

- Remote operation of ADS vehicles: within WP.1, discussions are currently ongoing on the topics of remote driving and remote management. Coordination regarding enforcement is advised, to consider additional standards for remote operation of ADS.
- Exemption/permit/status of the system: in case of an exemption or permit, relevant documents and information should be easily accessible and readily available for the enforcement officer, to facilitate a prompt and adequate response. How can this be ensured?
- Police street checks: how is an ADS vehicle's response to (stop) signs of enforcement officers ensured? Cooperation with WP.29 (for example with FRAV and/or VMAD) on this issue is advised, for example to include police checks in scenario's or functional requirements.
- How do we penalize? In the case an OEM or other legal entity is considered the responsible party for the driving task, what do we consider as just consequences for the committed offence? Revoking licenses, recall or fines are options to be considered. Additionally, how do we deal with relapse?

Final note

12. We invite all participants of WP.1 to share their views on this topic and to respond to our informal paper. We would like to discuss how to move forward with this issue. Our proposal is to include this discussion and its outcomes in the work of GE.3, which is preparing a new legal instrument on the use of automated vehicles in traffic.

13. Additionally, we ask other member states and participants to share relevant information regarding enforcement of ADS (for example, whether changes have been made to national legislation), or conventional vehicles for that matter. If such information is not available, we ask member states to include enforcement in ADS trials when relevant and share relevant outcomes.