Draft report of the 25th Session of the GRSG Informal Working Group on awareness of Vulnerable Road Users proximity in low speed manoeuvres (VRU-Proxi)

Dates: 19th and 20th of October 2022
Venue: Webex meeting
Chair: Mr. Romain Ladret Piciorus (European Commission)
Secretary: Mr. Johan Broeders (OICA)

1. Welcome and introduction

The Chair welcomed the group and explained the objectives of this 24th session of the IWG VRU-Proxi.

2. Adoption of the agenda

Document: VRU-Proxi-25-01 (Chair)

The Chair explained the revision of the initial agenda and running order as made by the Secretary due to the availability of some experts. The group adopted the revised agenda.

3. Adoption of the report of the 24th VRU-Proxi session (online meeting)

Document: VRU-Proxi-24-09 (Chair)

No comments were received concerning the report of the previous VRU-Proxi meeting. The report was adopted by the group.

4. Reversing Motion (R158)

Documents: VRU-Proxi-25-05 (Chair)
VRU-Proxi-24-02 (FR-DE)
VRU-Proxi-24-03 (CLEPA)

Temporary obstruction of the monitor view (paragraph 16.1.3.1)
The discussion about paragraph 16.1.3.1 concerning the temporary obstruction of the monitor view was continued during this session. The experts of the Contracting Parties and representatives of other organizations gave their position:

- The expert from FR mentioned that there is no clear definition of the steering wheel position during the test. Test will be conducted at standstill and there will be no turning of the steering wheel when reversing in a straight line. The expert warned that additional constraints on how to approach temporary obstruction for Regulation No. 158, may have unintended effect on how Regulations No. 121 and No. 46 are defined concerning similar obstructions of the view.

- The expert from DE added to the position from FR that the driver may require information from the mirrors when turning while reverse driving. Will obstruction from steering wheel be acceptable when view is completed by the mirrors? As proposed in GRSG-123-31 obstruction can be allowed under certain strict conditions.
- The expert from CLEPA proposed that the definition of the test shall be adapted: what steering wheel movement, seat positions, body sizes, etc.
- The expert from UK stated to have an issue with a monitor that could be obscured, it takes away the information required for the driver. Current text in the regulation gives no good direction for Technical Services on how to deal with this issue. It was also stated that the monitor shall be visible by movement of the head only (not with the complete torso).
- The expert from ACEA stated that a monitor visible at all times may lead to a monitor position that is in conflict with direct vision. It was also stated that drivers are not static, they will move to increase direct and indirect visibility. It could be useful to have a video of the driver movements during a reversing manoeuvre of a truck.
- The expert from OICA added that clear and unambiguous test and acceptance criteria are needed for the Technical Services. The current method, to check if the defined area and poles can be seen, will be done by reversing in a straight line.

Conclusion: Document VRU-Proxi-25-05 contains the revision of GRSG-123-31 according to the adaptations made during the meeting (marked in blue). Members of VRU-Proxi were asked to consider this proposal for the next VRU-Proxi meeting prior to submission to the next GRSG. The expert from FR will revise its proposal based on the feedback received, participants are invited to consult it and discuss it in advance to the meeting (i.e. not a drafting task force, but early comments).

Deactivation (paragraph 16.1.1.3) / Modification of the view (paragraph 16.1.1.1.1)
In previous session meeting the documents VRU-Proxi-24-02 and VRU-Proxi-24-03 were presented and the CPs were asked to give comments or guidance. VRU-Proxi-24-02 was a proposal to amend ECE/TRANS/WP.29/GRSG/2022/10 for next GRSG and WP.29. It was decided to not include the proposal of VRU-Proxi-24-03 in this amendment. There were no further comments from CPs to VRU-Proxi-24-03 and the experts from FR and CLEPA indicated to be willing to prepare a proposal for the next meeting.

The expert from JAMA informed the group about the introduction of Regulation No. 158 in Japan since May 2022 and explained that vehicles are already on the market with reversing systems complying with this Regulation. Therefore, revision of Regulation No.158 may need a transitional period.

OICA might still work on a proposal to remove a possible contradiction between the definition of the backing event in paragraph 15.1.1 and the activation conditions of the detection system in paragraph 17.1.

5. Direct Vision

5.1. GRSG Document from Germany regarding UEBS

Document: GRSG-124-04 (Germany)

The expert from DE presented document GRSG-124-04 and explained the background and

technical details of the Urban Emergency Braking System as presented in the 124th session of the GRSG. The aim is to establish a regulation with ambitious performance thresholds and robustness based on the discussions on current and future Direct Vision requirements. The expert from DE indicated that it is drafted as an "if-fitted" regulation but moreover VRU-Proxi could think of reducing the blind spot by means of active safety systems in combination with lower limit values in a certain area of the assessment volume close to the vehicle, for vehicles where no satisfactory alternative options exist.

Following comments were made:

- The expert from LDS noted that the focus is only at the front area of the vehicle while also collisions happen at the side of the vehicle. The expert from DE indicated that the accidents resulting in fatalities or seriously injured mainly occur in moving-off situations as shown on slide 10.
- The expert from ACEA made the remark that in the past the Industry made propositions for connecting active safety systems to the Direct Vision regulation to improve the VRU road safety but these proposals were never accepted by the IWG VRU-Proxi.
- The expert from SE mentioned to consider a holistic approach to fulfill the requirements from the EU GSR2. This could give openings to include active safety systems.
- Furthermore, the expert from DE explained that the relation to (fully) automated vehicles as laid down in document GRSG-123-08 has been withdrawn.

It was discussed how to move on with this on UNECE level because of the different focus areas between GRSG and GRVA. The experts from JP, FR and DK stated that VRU-Proxi was formed as an IWG of GRSG and should not have the intention to focus on active safety but on informing the driver. These experts also stated that they welcomed new safety regulations but that these active systems cannot be seen as an alternative to Direct Vision itself. The expert from DE explained that GRSG will table the issue at the next WP.29 session to ask for guidance on how to continue with this regulation and on which GR level it shall be discussed.

5.2. Direct Vision Regulation Phase 2

Document: VRU-Proxi-25-02 (DV Taskforce)
VRU-Proxi-25-03 Revised after meeting (LDS)
VRU-Proxi-25-04 (ACEA)

The Chair of the Direct Vision Taskforce presented the of the work of the Direct Vision Taskforce including the work plan and timing focusing on the objectives according to the Terms of Reference:

- Design neutrality: amending the alternative testing method for innovative vehicle designs (e.g. aerodynamic narrow A pillar designs) by replacing paragraph 5.3.
- Alternative approach for vehicles with competing objectives: For vehicles with competing objectives (e.g. improved direct vision versus high capacity transport, high efficiency, new powertrain technology, impact on freight industry) with direct vision challenges an alternative approach could be considered. It shall be limited to Level 3 for N3 category of vehicles and shall be based on quantified data.

Design / technology neutrality
The expert of LDS presented the status of the analysis concerning different technology neutrality options for the front volume based on a sensitivity analysis with different A-pillar positions. It was explained that all options proved to be less sensitive to the A-pillar position

than the current front volume approach. For all the options the correlation with the VRU-distance showed to be good or very good. It was highlighted that there were differences in variances of the options although all options perform better than the current front volume assessment approach.

The expert of ACEA argued that the correlation figures seemed not be fully comparable (different scales and vehicle samples) and asked for an update. The expert of LDS agreed that, while the scale are different it will not change the result and proposed to update the figures accordingly.

The discussion was nailed down to option 3 and option 4. The expert of LDS preferred option 4 because of the lower variance but the Industry advocated for option 4 because of the focus area from a VRU safety perspective as explained in VRU-Proxi-25-04.

The Chair requested for opinions of the Contracting Parties concerning option 3 or option 4:

SE : no clear opinion, both options can be accepted
DK : no clear preference
DE : no clear preference, may depend on new correlation figures from LDS
FR : not decided yet, need to analyse what is the best solution for safety
UK : option 4
NL : no position yet

The expert of LDS mentioned that equivalence with the current method is needed and that option 3 might skew the relation between volume that can be seen and the VRU-distances when using the mathematical method. It is important that the Industry evaluates the results (limit values) as well.

Due to the status of the CP positions no final conclusion or decision was be made. The Chair proposed to forward the discussion to the Taskforce Direct Vision and in order to make progress the Chair asked the Contracting Parties provide their positions by the 9th of November 2022.

Alternative approach for vehicles with competing objectives
The framework for the proposal regarding vehicles with competing objectives is in progress but it seems challenging to define a distinctive combination for load capacity, number of axles, engine power etc.. This topic needs to be further discussed in the Direct Vision taskforce.

6. Moving-Off Information System (R159)

This subject has not been discussed as no documents or proposals were submitted.

7. Blind Spot Information System (R151)

This subject has not been discussed as no documents or proposals were submitted.

8. Frontal and Lateral Driver's Awareness M1/N1

The new regulation for driver awareness of VRUs in close proximity frontal and lateral for M1/N/1 was submitted to WP.29 for voting in its November 2022 session. The timeline for this regulation going into force will be discussed in WP.29. Japan will apply this regulation but it is not clear what the enter into force date will be. The expert from the EC mentioned that the EU has no intentions to apply this regulation.

9. Component Approval

There was no update on this subject. The Chair will contact the EC and J for further discussion and confirmation.

10. Next meeting

26th meeting: [provisional dates are 2 days early December 2022 (only morning sessions), web meeting TBD]

11. Any Other Item

No further items were discussed.