

**Draft Report of the 1<sup>st</sup> Session**  
**GRSG informal group on**  
**awareness of Vulnerable Road Users proximity**  
**in low speed manoeuvres (VRU-Proxi)**

- Dates: 23<sup>rd</sup> to 24<sup>th</sup> of March 2017
- Venue: European Commission, Brussels  
Belgium

**1. Adoption of the agenda**

Document: VRU-Proxi-01-01 (J-European Commission)

The European Commission informed willing to share knowledge about the progress of the European General Safety Regulation (GSR) revision.

The agenda was adopted as amended

**2. Election of chair and Secretary**

Mr. Broertjes (European Commission) explained that, due to the connection with the EU GSR, he will be the EU representative.

**Adopted:**

- Chair: Japan; Matsui san
- Co-chair: the European Commission; Mr. Broertjes
- Secretary: OICA

**3. History and background of the subject**

Document: GRSG-111-22 (J)

Japan presented the document GRSG-111-22.

OICA informed that historically, the objective of the task-force changed during the life of the task-force meetings. OICA was keen that 1<sup>st</sup> the problems be identified, then the experts could give clear scope to the informal group.

The European Commission supported the idea of a clear scope (vehicle categories). Yet the expert was keen that the vehicle categories coverage be as broad as possible. The scope should be large at the beginning, and then reduced to the part that is fully justified by accident data and cost benefit analysis.

The chair suggested that the objective of the group be discussed under the terms of reference item, and that it should be as large as possible as well.

F pointed out that other regulation could overlap the scope (UN R125, D proposal for blind spot detection, others).

The expert from the European Commission informed relying on the group to be a kind of think tank on these issues (detection systems, etc.).

CDN questioned the history of the Phase 1 task-force

Japan reminded that J was trying to adopt UN R46 for long, but had a national close proximity vision regulation. (the expert from J presented the side close-proximity mirror that is necessary in Japan to comply with the close proximity vision legislation). For political reason, J nevertheless adopted UN R46, and GRSG decided to continue the work of scrutinizing the possibility of introducing close-proximity vision.

As J understand this side proximity vision may not be of priority to contracting parties, the primary scope of the informal group should be rear view.

CLEPA informed supporting the work of this informal group, and supporting a pragmatic approach where justification for a need is a basis.

The European Commission updated the group on the progresses of the GSR revision.

The European Commission is in the process of looking to what should be done. The expert recognized that the targets (time) will be difficult to reach. Yet in 2009, a Regulation was adopted giving the European Commission the mandate to review the state of play, according to the technology progress. One area was VRU vs. trucks, e.g. truck vs. pedestrian. A simple solution would be bigger windows (direct vision).

In addition, regulations on weights and dimensions is restrictive as well, length is limited, hence the front of the vehicle is quite “squared”. Due to CO2 emissions regulations, aerodynamics make necessary rounded corners. The European Commission agreed to extend the length under the condition that the aerodynamic and VRU safety are improved. Hence the need to improve visibility and detection.

The European Commission was of the opinion that, as mirrors are not very good considering direct visibility, the CMS are not good neither. CMS have the advantage of the processing. The European Commission had big hopes that the technology evolve sufficiently to improve the situation.

OICA stressed that the vehicle might still be adapted to the new technology according to the experience gained in the field. The group must be pragmatic.

Concerning the focus of the group, the European Commission believed that the best is the direct vision. But if the driver does not look, then they do not see. Hence there is a need for detection. As an example, reversing camera. FMVSS111 mandates rear view backing cameras. According to the US researches, the acoustic warning warns the driver, and if they don't see the obstacle they continue to drive even if the acoustic warning functions.

The European Commission shared his experience of the acoustic warning

OICA pointed out that the situation in the different countries may differ a lot. For example, the US have already a wide amount of rear camera, the decision to make them mandatory was not that difficult to Industry and the users.

The group agreed to base their decisions on sound and scientific data.

CDN raised that most of the accidents with passenger cars take place in private areas, hence the data are difficult to collect.

J informed having effectiveness data.

The group was informed that there exists also a study (jointly from Australia and NZ) comparing the vehicle equipped with both sensors, rear camera and both with vehicles not equipped.

**Action points:**

- OICA to bring AUS/NZ study
- CLEPA/OICA to provide data about the detection technologies (matrix of technology performance / technology nature)

There was a debate on the way to find field data.

CDN presented their presentation (document VRU-Proxi-01-04)

The group agreed not to address “intervening” systems that make e.g. the braking system or the steering system operate because there is no evidence of their cost/benefits ratio and because GRSG is not the proper forum to discuss these functions.

**4. Discussion on terms of reference of the IWG**

Document: GRSG-111-29 (J)

J was keen to discuss the name of the group, taking into account that the J target is to protect the VRUs and focus on close proximity.

The group should restrict to passive system (no active intervention on the behaviour of the vehicle).

The group discussed the terms of reference (document VRU-Proxi-01-02).

The European Commission was of the opinion that the indirect vision should not be in the scope of the informal group since mirrors do not address their concern.

CLEPA challenged this and proposed to copy/paste the titles of R125 and R46.

J was keen that the popular Japanese rear close proximity mirror be included into the scope.

The chair suggested to add what scenarii would be covered.

CLEPA (Bosch) was of the opinion that with regard to warning vs. intervention: when the Time To Collision (TTC) is low, a warning does not make sense. Hence the intervention should not be out of the discussion for now. The expert suggested that at least a conscious decision should be done by the group.

**Vehicle categories:**

The group agreed to cover all M and N categories.

Category O: the European Commission was keen that these are included for internal reason, even if the expert is convinced it is not necessary. The group did not intend to request modification to ISO 11922.

L category was definitely excluded.

**Roadmap**

The European Commission proposed 3 phases

1. Reversing motion (CMS or detection system)
2. Forward motion detection system in close proximity of the driver

### 3. Direct vision

Japan suggested the following

1. Rear view process
2. The rest

118<sup>th</sup> session of GRSG was promoted by the European Commission for the completion of the 1<sup>st</sup> phase in order to give time to Industry to adapt their production. It was mentioned that some Industry is keen to have the same date of application for all the similar technologies. The group finally agreed on the stepwise approach as in the amended terms of reference.

The group finally agreed the following

- i. Reversing motion (e.g. Camera Monitoring Systems - CMS - or detection system): 116<sup>th</sup> session of GRSG (April 2019)
- ii. Forward motion (e.g. CMS or detection system): 118<sup>th</sup> session of GRSG (April 2020)
- iii. Direct vision: 120<sup>th</sup> session of GRSG (April 2021)

#### **Title of the group:**

“Informal group of GRSG on awareness of VRU proximity in low speed manoeuvres (VRU-Proxi)”

The experts were keen that the overlaps with the active safety groups at WP29 be taken into account in the Terms of reference. A debate took place on the best way to make the connexion with these groups.

Conclusion: when reporting to GRSG about the terms of reference, the representative of the informal group will request GRSG advice on the best way to proceed connexions with the other groups.

The European Commission was keen to involve some bodies not represented at GRSG, on a case by case basis to share their expertise. OICA suggested that such experts should not promote particular technologies and should not be part of the decision process.

The European Commission proposed a wording to capture this.

**Conclusion:** amended terms of reference adopted as per document VRU-Proxi-01-02 (J-EC) revised draft TORs V2.

## **5. Discussion on requirements**

Documents: VRU-Proxi-01-05 (European Commission)  
 GRSG-111-23 (J)  
 GRSG-110-10 (J)  
 VRU-Proxi-01-04 (CDN)

A debate took place on the scenarii to be addressed by the group, and the definition to be given to “Vulnerable Road Users (VRU)”. The European Commission informed seeing

VRUs as pedestrians and cyclists for this IWG discussions.

There was then a debate on the very objective of the informal group.

There was a proposal to check the accident data in order to capture which scenario the informal group wants to focus on.

Concern was then raised about an overlap with GRSG/2017/11 (D)

CDN presented their document VRU-Proxi-01-04.

The expert from the European Commission stressed that the CDN outcomes align with his feeling that the direct vision should be prioritized, then followed by detection and warning systems. However the group acknowledged that, for certain scenarii, there is no best solution than detection systems.

The European Commission announced having launched a research with TRL on enhanced front end design of trucks for addressing front-end collision. Some data will then be available for the use of this informal group.

OICA questioned whether CDN would focus only on driver warning, or also on action on the braking system. CDN informed that this may happen in the future, but this is not the focus at this stage.

### Matrix of state of play of the relevant regulations

	D proposal	informal group VRU-Proxi	EU GSR revision	FMVSS-111	R125	GOST 51266
<b>Scope</b>	Turning trucks vs. bicycles	All vehicles vs. VRUs	Reverse detection Blind spot camera Direct vision	Rearview image	Direct FOV	Direct FOV
<b>Vehicle categories</b>	N2>8t N3 Articulated vehicles	M N (O)	RD: M, N, O BSC: M2, M3, N2, N3 DV: M2, M3, N2, N3	passenger cars, multipurpose passenger vehicles, low-speed vehicles, trucks, buses and school buses < 4536kg	M1	(M1), M2, M3, N
<b>Scenario</b>	Subject vehicle turning in the direction of traffic at a crossing	low speed manoeuvres in any direction	RD: Reversing manoeuvre BSC: turning, rear-approaching vehicle DV: turning, 360°	Reversing manoeuvre	Normal driving, 180°	Normal driving, 180°
<b>Accident data</b>	Informal group members to scrutinize available reports, researches, etc.					
<b>Documents</b>	GRSG-110-24 GRSG-11-24 GRSG/2017/11	GRSG-110-10 GRSG-11-29 GRSG-111-22 GRSG-111-23	20160216-090303_201 60216 MVWG presentation GSR review v.1.01.pptx	FMVSS-111	R125	GOST 51266

A debate took place on the existing regulations and standards with regard to direct field of vision of trucks.

### Conclusion:

- VDA to provide information on the D standard on direct vision
- All to collect accident data.

### A-pillar

There was a presentation by the [European Commission](#) on the blind spot due to the A-pillar (NHTSA - Brian Sherlock – Transit Bus Structure).

UTAC suggested to take into account UN R107 where obstructions are addressed. In general, the group agreed to consider interior fitting as obstacle to driver's direct view, and the "normal position" of a component.

The European Commission presented the state of play of the GSR (document VRU-Proxi-01-05).

One of the key questions was the relevance of an existing regulation (e.g. LDWS) when a "superior" system is fitted in the vehicle (e.g. LKAS).

J presented some input on A-pillar visibility. For low speed manoeuvre, the distance detection (or image size) is less important than at high speed, hence the user can accept a radius of <600mm. Yet this was discussed some time ago at GRSG, and GRSG did refuse  $R < 600$  mm because the objects become too small.

## **6. Schedule for next step and meetings**

### **Frequency:**

The group found reasonable to limit the frequency of the meetings to 3 times a year, with 2-day meetings.

**Venues:**

As this seems to be an international group (RUS, CDN, J, etc were present.) it was found relevant to take into account a wide range of opinions. The European Commission was keen to organize a meeting in London to catch the opportunity of meeting Transport For London such they can deliver their experience.

**Next meetings:**

- 2<sup>nd</sup> meeting: 4-5 July 2017 in London (venue TBC)
- It was confirmed that there will be no informal group meeting on 24 April at Geneva
- 3<sup>rd</sup> meeting: 8-9 November 2017 in Yokohama (venue TBC)

**7. AOB**

None.