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#### Working Party on General Safety Provisions

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## Report of the Working Party on General Safety Provisions on its 117th session


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## I. Attendance

1. The Working Party on General Safety Provisions (GRSG) held its 117th session from 8 to 11 October 2019 in Geneva. The meeting was chaired by Mr. A. Erario (Italy). Experts from the following countries participated in the work, following Rule 1 of the Rules of Procedure of the World Forum for Harmonization of Vehicle Regulations (WP.29) (ECE/TRANS/WP.29/690/Rev.1): Belgium, Canada, China, Czech Republic, Finland, France, Germany, Hungary, India, Italy, Japan, Kuwait, Latvia, Netherlands, Norway, Poland, Republic of Korea, Romania, Russian Federation, Saudi Arabia, Serbia, South Africa, Spain, Sweden, Switzerland and United Kingdom of Great Britain and Northern Ireland (United Kingdom). An expert from the European Commission (EC) participated. Experts from non-governmental organizations participated: European Association of Automotive Suppliers (CLEPA), International Motorcycle Manufacturers Association (IMMA), International Association for Natural Gas Vehicles (NGV Global), International Organization for Standardization (ISO), International Organization of Motor Vehicle Manufacturers (OICA), Liquid Gas Europe (LG Europe) and Recreation Vehicle Industry Association (RVIA) and World Bicycle Industry Association (WBIA). Upon the special invitation of the Chair, an expert from the European Committee for Standardization (CEN) participated.

## II. Adoption of the agenda (agenda item 1)

*Documentation:* ECE/TRANS/WP.29/GRSG/2019/15 and Add.1  
Informal documents GRSG-117-01 and GRSG-117-20

2. GRSG considered and adopted the agenda (ECE/TRANS/WP.29/GRSG/2019/15 and Add.1) proposed for the 117th session as contained in its consolidated and updated version (GRSG-117-20).
3. GRSG also adopted the running order (GRSG-117-01) as proposed by the Chair.
4. The informal documents distributed during the session are listed in Annex I to this report. The GRSG informal working groups are listed in Annex III.

## III. Amendments to regulations on buses and coaches (agenda item 2)

### A. UN Regulation No. 107 (M<sub>2</sub> and M<sub>3</sub> vehicles)

*Documentation:* ECE/TRANS/WP.29/GRSG/2019/30  
ECE/TRANS/WP.29/2019/99  
ECE/TRANS/WP.29/2019/100  
ECE/TRANS/WP.29/2019/101  
Informal documents GRSG-117-03, GRSG-117-07, GRSG-117-08  
and GRSG-117-10, GRSG-117-54

5. The Chair recalled discussions at the 116th session of GRSG on the proposed amendments of the requirements in Annex 11 of UN Regulation No. 107 on the minimum mass for the front axle of articulated vehicles of Class I (ECE/TRANS/WP.29/GRSG/95, para.5). The proposed amendments have been issued as official working documents ECE/TRANS/WP.29/2019/99, ECE/TRANS/WP.29/2019/100 and ECE/TRANS/WP.29/2019/101 for consideration and adoption by WP.29 and the Administrative Committee AC.1 of the 1958 Agreement at their November 2019 sessions.

The expert from the United Kingdom recalled his study reservations on braking performance and braking stability. GRSG decided to keep the documents on the WP.29 agenda as further amendments were always possible, if needed.

6. The Secretary of the Working Party on Passive Safety (GRSP) informed GRSG on the establishment of an Informal Working Group (IWG) on securing of children in busses and coaches. He referenced to the discussions at the sixty-fifth GRSP session calling for the establishment of a new UN Regulation covering this issue (see also ECE/TRANS/WP.29/GRSP/2019/22, para.3). He further recalled that the scope of UN Regulations Nos. 44 and 129 were limited to vehicles of Category M<sub>1</sub>. GRSP was considering an extension of the scope to include also Categories M<sub>2</sub> and M<sub>3</sub> vehicles. He further informed GRSG that WP.29 had already endorsed the mandate and the new IWG would present its terms of reference as official document to next GRSP session. He finally recalled that work on this topic would request combined expertise of both GRSG and GRSP.

7. The expert from Germany informed that European Union legislation would require the use of child restraint systems for transport of children in busses and coaches. However, based on the current design and installation of seats and their safety belts several issues were raised for vehicles of Categories M<sub>2</sub> and M<sub>3</sub>, which requested more considerations. GRSG acknowledged the high importance of the securing of children in busses and coaches and decided to keep this element on its agenda for the next meeting.

8. The expert from OICA presented ECE/TRANS/WP.29/GRSG/2019/30 on the position of escape hatches on M<sub>2</sub> buses of Classes A and B in the transition from the 05 and 06 series of amendments to UN Regulation No. 107. Following clarification on the positioning of escape hatches in the vehicles concerned and adjustment of language used (GRSG-117-54), GRSG adopted ECE/TRANS/WP.29/GRSG/2019/30 as amended by GRSG-117-54. The secretariat was requested to submit it to WP.29 and AC.1 as draft Supplement 7 to the 06 series of amendments, Supplement 2 to the 07 series of amendments and Supplement 2 to the 08 series of amendments to UN Regulation No. 107 for consideration at their March 2020 sessions.

9. The expert from Spain introduced GRSG-117-03 on a proposal for an amendment to UN Regulation No. 107 aiming at prevention of movements of vehicles of categories M<sub>2</sub> and M<sub>3</sub> whilst their lifts or ramps were used. GRSG agreed to resume discussions at its next session based on an official document.

10. The expert from France introduced GRSG-117-07 on national legislation for autonomous urban shuttles with a capacity for transport of nine to sixteen passengers both in seated and standing positions. He highlighted that this national legislation was based on principles of UN Regulation No. 107 for vehicles of categories M<sub>2</sub> and M<sub>3</sub> Class A with several derogations related inter alia to the minimum number of seats or the width of the service door. He further highlighted the need for amendments related to braking systems, steering controls and stability evaluations in case of autonomous operations. He informed GRSG that test procedures were based on UN Regulations Nos. 151 and [152] as well as on European New Car Assessment Programme (EuroNCAP) protocols. Additional elements such as process audit, cyber security and connectivity had been added to the national approval requirements. GRSG showed high interest in these latest developments and engaged in a discussion on various related topics such as the need for a new vehicle category, monitoring of operations by a control centre or the need of Data Storage Systems for Automated Driving (DSSAD). GRSG acknowledged the high importance of the new technology of autonomous shuttles and decided to keep this item on its agenda for the next meeting.

## **B. UN Regulation No. 118 (Burning behaviour of materials)**

*Documentation:* Informal documents GRSG-117-08

11. The expert from France, as Chair of the Informal Working Group (IWG) on the behaviour of the general construction of M<sub>2</sub> and M<sub>3</sub> vehicles in a fire event (BMFE), introduced GRSG-116-08 on the outcome of the recent meeting held in Bergisch Gladbach (Germany) on 25 and 26 June 2019. He reported that IWG had started to follow-up on an ongoing research study by Germany on the toxicity and opacity of the smoke to define a simplified test method to determine toxicity of materials. He further informed GRSG that no proposals for amendments to UN Regulations Nos. 107 and 118 were available at this moment. GRSG was looking forward considering proposals at its next session.

## **IV. UN Regulation No. 26 (External projections of passenger cars) (agenda item 3)**

*Documentation:* ECE/TRANS/WP.29/GRSG/2019/2  
ECE/TRANS/WP.29/GRSG/2019/34  
Informal document GRSG-117-26, GRSG-117-45 and GRSG-117-44-Rev.1

12. The expert from OICA introduced ECE/TRANS/WP.29/GRSG/2019/2 on bonnet edges. Following detailed technical discussions and adjustment of language used, GRSG adopted ECE/TRANS/WP.29/GRSG/2019/2 as amended by GRSG-117-45. GRSG requested the secretariat to submit it to WP.29 and AC.1 as draft supplement 4 to the 03 series of amendments to UN Regulation No. 26 for consideration at their March 2020 sessions.

13. The expert from France introduced ECE/TRANS/WP.29/GRSG/2019/34 that clarifies the requirements on windscreen wipers with a simple generic drawing of the concerned areas. Following detailed technical discussions and adjustment of language used and transitional provisions, GRSG adopted ECE/TRANS/WP.29/GRSG/2019/34 as amended by GRSG-117-44-Rev.1. The secretariat was requested to submit it to WP.29 and AC.1 as draft 04 series of amendments to UN Regulation No. 26 for consideration at their March 2020 sessions.

## **V. UN Regulation No. 34 (Prevention of fire risks) (agenda item 4)**

14. The expert from EC informed GRSG that rear impact, especially for electric and hybrid-electric vehicles, were linked to fire risks and that the Working Party on Passive Safety (GRSP) would deal with this subject. The Chair confirmed it and added that a specific task force had been created under GRSP. The expert from OICA and acting Secretary of the task force explained that the task force was aimed at establishing of a new UN Regulation under GRSP and that, at a later stage, cross references would be aligned. The expert from Germany mentioned different considerations to take out crash test provisions in UN Regulation No.34. He offered to follow up with a new document for electro-hybrid vehicles with fuel tanks in one of the next sessions.

## **VI. UN Regulation No. 35 (Foot controls) (agenda item 5)**

*Documentation:* Informal document GRSG-117-35

15. The expert from OICA introduced GRSG-117-35 requesting the withdrawal of document ECE/TRANS/WP.29/2019/93 from the item 4.7.1. of the provisional agenda of the 179th session of WP29 (12-14 November 2019) and to resume considerations at one of the next sessions of GRSG.

16. GRSG agreed to revisit the document at its next session and to request withdrawal of document ECE/TRANS/WP.29/2019/93 from the provisional agenda of the 179th session of WP29 (12-14 November 2019).

## **VII. Amendments to safety glazing regulations (agenda item 6)**

*Documentation:* Informal document GRSG-117-37, GRSG-117-38 and GRSG-117-39

17. The expert from the Republic of Korea, Chair of IWG on Panoramic Sunroof Glazing (PSG), introduced GRSG-117-38 containing a status report of activities by the group since 2015 that have resulted in the proposal for a new Mutual Resolution No. [4]. IWG Secretary introduced GRSG-117-37 on the progress of the group during its nineteen meetings since the 110th session of GRSG. He further presented in detail GRSG-117-38 containing a proposal for a new M.R.[4].

18. GRSG welcomed the proposal and asked to issue it as official document for the next session.

19. The secretariat recalled the need to report to AC.3 on these developments so that compliance with the mandate given in ECE/TRANS/WP.29/AC.3/41 was ensured.

### **A. UN Global Technical Regulation No. 6 (Safety glazing)**

*Documentation:* ECE/TRANS/WP.29/GRSG/2019/35  
ECE/TRANS/WP.29/GRSG/2019/33  
Informal document GRSG-117-43 and GRSG-117-49

20. The expert from India introduced ECE/TRANS/WP.29/GRSG/2019/35 to align UN Global Technical Regulation (GTR) No. 6 with UN Regulation No. 43 on the optional use of laminated-glass panes with improved mechanical properties, particularly for the front, exterior, forward-facing glazing of the upper deck of a double-deck vehicle. He highlighted that the document had already been considered at the last GRSG session.

21. GRSG adopted ECE/TRANS/WP.29/GRSG/2019/35 and requested the secretariat to submit it to AC.3 as draft amendment to UN GTR No. 6 for consideration at its March 2020 sessions. The expert from India was invited to provide the secretariat with a technical report that would accompany the proposal within the deadline for the 180th WP.29 session (9 December 2019)

22. The expert from the Republic of Korea presented ECE/TRANS/WP.29/GRSG/2019/33 as amended by GRSG-117-43 and GRSG-117-49 on the need to exempt in Zone I the possible opaque obscuration which is defined in paragraph 7.1.3.2.4. of the annexes on installing laminated-glass panes. The expert from Germany clarified that there was no real difference between UN GTR No.6 and UN Regulation No.43 as the UNGTR would provide for two options while the UN Regulation would use only one of the options which was in accordance with the agreements.

23. GRSG adopted ECE/TRANS/WP.29/GRSG/2019/33 as amended by GRSG-117-49 and requested the secretariat to submit it to AC.3 as draft amendment to UN GTR No. 6 for consideration at its March 2020 sessions. The expert from the Republic of Korea was invited to provide the secretariat with a technical report that would accompany the proposal

within the deadline for the 180th WP.29 session (9 December 2019).

## **B. UN Regulation No. 43 (Safety glazing)**

24. The expert from OICA questioned whether the amendments to UN GTR No.6 (see paras 22 and 24 above) would require for parallel amendments to UN Regulation No. 43. Upon request by the Chair, the expert from OICA agreed to prepare a related proposal for the next session.

25. GRSG agreed to resume discussions on amendments to UN Regulation No. 43 based on a proposal to be submitted by OICA at its next session.

## **VIII. Awareness of the proximity of Vulnerable Road Users (agenda item 7)**

*Documentation:* Informal documents GRSG-117-04 and GRSG-117-34

26. The expert from Switzerland, in his role as GRBP ambassador, introduced GRSG-117-04 highlighting discussion on the scope and on the installation of a pause switch which was considered feasible in cases where a Camera-Monitor-System (CMS) would be active. GRSG noted that the use of CMS could be hampered in cases where vehicles were used in combination with trailers and therefore recommended that, in such cases, the pause switch shall be inactive.

27. GRSG noted GRSG-117-34 tabled by IWG on awareness of Vulnerable Road Users proximity in low speed manoeuvres (VRU-Proxi) which provided the status of IWG and a summary of proposed regulation on the approval of devices for reversing motion and motor vehicles with regard to the driver's awareness of vulnerable road users behind vehicles. The regulation would follow a multi modal approach consisting of indirect vision, detection systems, direct vision or combinations of methods or devices. It would cover both the approval of components and also their installation.

28. GRSG agreed to resume discussions on the new UN Regulation based on a proposal to be submitted by VRU-Proxi at its next session and noted the next meeting of IWG that would be held in Brussels from 26 to 28 November 2019.

## **A. UN Regulation No. 46 (Devices for indirect vision)**

*Documentation:* ECE/TRANS/WP.29/GRSG/2019/27  
ECE/TRANS/WP.29/GRSG/2019/31  
Informal documents GRSG-117-16, GRSG-117-17, GRSG-117-32, GRSG-117-40 and 40-Rev.1-3, GRSG-117-41 and GRSG-117-42

29. The expert from Germany introduced ECE/TRANS/WP.29/GRSG/2019/27 on possibility for a temporary modified view and based on GRSG-117-40 highlighted the difference between the relevant field of view and the required field of view. The expert from France, in principle, welcomed the proposal however raised questions on conditions for activation or de-activation of temporary modified view by the driver and requested a better definition of 'temporary manoeuvre'. The expert from the United Kingdom engaged in the discussion by supporting concerns raised by his French colleague and adding that the modified view could end up with new blind spot areas.

30. Following detailed technical discussions and adjustment of language used, GRSG adopted ECE/TRANS/WP.29/GRSG/2019/27 as amended by reproduced GRSG-117-40-

Rev.3. The secretariat was requested to submit it to WP.29 and AC.1 as draft Supplement 7 to the 04 series of amendments to UN Regulation No. 46 for consideration at their March 2020 sessions.

31. The expert from OICA introduced ECE/TRANS/WP.29/GRSG/2019/31 on identification lines identifying changes in magnification for Camera-monitor-Systems (CMS) with more than one field of vision on the same display. GRSG adopted ECE/TRANS/WP.29/GRSG/2019/31 and requested the secretariat to submit it to WP.29 and AC.1 as draft supplement to UN Regulation No. 46 for consideration at their March 2020 sessions.

32. The expert from Italy introduced GRSG-117-16 and GRSG-117-17 on free form mirrors. GRSG noted that experts needed more information on this new technology and decided to keep this item on the agenda for reconsideration at its next session. The Chair invited delegates to contact the expert from Italy for further information.

33. The expert from the Republic of Korea presented GRSG-117-32 to clarify the provisions on tests of CMS when installed on a vehicle. The expert from Germany clarified that UN Regulation No. 46 would already cover the test of installed systems on vehicles and therefore he would not see the need for additional test provisions. The Chair invited the experts to check if UN Regulation No.46 would need to be amended and invited Korea to come up with a related proposal at the next GRSG session, if necessary.

34. The expert of Germany introduced GRSG-117-41 and GRSG-117-42 proposing corrections to the text of UN Regulation No. 46. Experts from France and Netherlands engaged in discussion on different needs for corrections in the text of the regulation. GRSG agreed to resume discussions on corrections to the text of the regulation based on a proposal to be submitted by experts from France and Germany at its next session. The secretariat reminded GRSG on the strict understanding of corrigenda by the Office for Legal Affairs and invited the experts considering a supplement in case of substantive changes to the text.

## **B. UN Regulation on Blind Spot Information Systems (BSIS)**

*Documentation:* ECE/TRANS/WP.29/GRSG/2019/25  
Informal document GRSG-117-23 and GRSG-117-24 and 24-Rev.1

35. The expert from VRU-Proxi introduced ECE/TRANS/WP.29/GRSG/2019/25 containing two proposals: (i) clarification of test procedures allowing non-random selection of parameter combinations and (ii) protrusion requirements for BSIS external elements. He further introduced GRSG-117-23 on clarification of elements to be considered for the determination of the vehicle front right corner.

36. Following detailed technical discussions and adjustment of language used (GRSG-117-24-Rev.1), GRSG adopted ECE/TRANS/WP.29/GRSG/2019/25 and GRSG-117-23 as reproduced in Annex II to this report. The secretariat was requested to submit it to WP.29 and AC.1 as draft Supplement 1 to UN Regulation No. 151 for consideration at their March 2020 sessions.

## **IX. UN Regulation No. 55 (Mechanical couplings) (agenda item 8)**

*Documentation:* ECE/TRANS/WP.29/GRSG/2019/6  
Informal documents GRSG-117-06, GRSG-117-09 and GRSG-117-25  
37. The expert from EC introduced GRSG-117-25 amending ECE/TRANS/WP.29/GRSG/2019/6 to update the provisions on removable mechanical



couplings fitted to motor vehicles, particularly on the need to provide clear information to the driver. The expert from Finland introduced GRSG-117-06 with further amendments to UN Regulation No.55 clarifying flexible components of the articulation.

38. GRSG adopted GRSG-117-25 amending ECE/TRANS/WP.29/GRSG/2019/6 and requested the secretariat to add, based on the related part of GRSG-117-06, an updated Annex 3 on the approval mark and to submit it to WP.29 and AC.1 as draft 02 series of amendments to UN Regulation No. 55 for consideration at their March 2020 sessions.

39. GRSG agreed to resume consideration on GRSG-117-06 on basis of new working documents and on GRSG-117-09 at its next session.

## **X. UN Regulation No. 58 (Rear underrun protective devices) (agenda item 9)**

*Documentation:* ECE/TRANS/WP.29/GRSG/2019/32  
Informal documents GRSG-117-46, GRSG-117-50 and GRSG-117-51

40. The expert from OICA presented ECE/TRANS/WP.29/GRSG/2019/32 introducing requirements for aerodynamic devices. The expert from CLEPA introduced GRSG-117-46 with further clarification of the area of the aerodynamic devices with limited hardness. The expert from EC presented GRSG-117-50 amending the definition of aerodynamic devices and equipment in ECE/TRANS/WP.29/GRSG/2019/32.

41. Following detailed technical discussions and adjustment of language used, GRSG adopted ECE/TRANS/WP.29/GRSG/2019/32 as amended by GRSG-117-51. The secretariat was requested to submit it to WP.29 and AC.1 as draft supplement 1 to the 03 series of amendments to UN Regulation No. 58 for consideration at their March 2020 sessions.

## **XI. UN Regulation No. 62 (Anti-theft (mopeds/motorcycles)) (agenda item 10)**

*Documentation:* ECE/TRANS/WP.29/GRSG/2019/24

42. The expert from France introduced ECE/TRANS/WP.29/GRSG/2019/24 proposing requirements for electromagnetic compatibility for electromechanical and electronic devices to prevent unauthorized use.

43. GRSG adopted ECE/TRANS/WP.29/GRSG/2019/24 and requested the secretariat to remove square brackets in para.12 of the document and to add requirements for the approval mark and number, and to submit it to WP.29 and AC.1 as draft 01 series of amendments to UN Regulation No. 62 for consideration at their March 2020 sessions.

## **XII. Amendments to gas-fuelled vehicle regulations (agenda item 11)**

### **A. UN Regulation No. 67 (LPG vehicles)**

*Documentation:* Informal documents GRSG-117-15 and GRSG-117-52

44. The expert from Italy presented GRSG-117-15 introducing a new connector "J15". GRSG agreed to resume consideration on basis of a working document based on GRSG-117-15 at its next session.

45. The expert from LG Europe introduced GRSG-117-52. GRSG requested the secretariat to verify the different language versions of UN Regulation No. 67 as inconsistencies have been detected and to rectify them by issuing an erratum.

## **B. UN Regulation No. 110 (CNG and LNG vehicles)**

*Documentation:* ECE/TRANS/WP.29/GRSG/2019/26  
ECE/TRANS/WP.29/GRSG/2019/28  
Informal documents GRSG-117-18, GRSG-117-18-Rev.1 and  
GRSG-117-28

46. The expert from NGV Global introduced GRSG-117-18 amending ECE/TRANS/WP.29/GRSG/2019/26 introducing amendments to Annex 3A of the Regulation clarifying issues associated with periodical technical inspection (PTI) and periodic requalification of CNG cylinders.

47. GRSG adopted GRSG-117-18-Rev.1 amending ECE/TRANS/WP.29/GRSG/2019/26 and requested the secretariat to submit it to WP.29 and AC.1 as proposal for Supplement 1 of 04 series of amendments to UN Regulation No. 110 for consideration at their March 2020 sessions.

48. The expert from NGV Global introduced ECE/TRANS/WP.29/GRSG/2019/28 proposing certain change of design criteria in Annex 3 of UN Regulation No. 110. The expert from OICA supported the document and suggested some amendments (GRSG-117-28).

49. GRSG adopted ECE/TRANS/WP.29/GRSG/2019/28 as amended by GRSG -117-28 and requested the secretariat to submit it to WP.29 and AC.1 as proposal for Supplement 2 of 04 series of amendments to UN Regulation No. 110 for consideration at their March 2020 sessions.

## **XIII. UN Regulation No. 93 (Front underrun protection) (agenda item 12)**

*Documentation:* ECE/TRANS/WP.29/GRSG/2019/19  
Informal documents GRSG-117-36, GRSG-117-48 and GRSG-117-55

50. The expert from EC presented ECE/TRANS/WP.29/GRSG/2019/19 proposing to update the provisions on frontal underrun protection to be approved as integrated part of the vehicle, and to allow more a rounded shape of cabs for better aerodynamic performance. The expert from OICA introduced GRSG-117-36 highlighting the need for keeping exceptions for vehicles of Category G and proposed to cover the issue of the scope in a separate proposal.

51. Following detailed technical discussions and adjustment of language used (GRSG-117-55), GRSG agreed to submit it to WP.29 and AC.1 as proposal for 01 series of amendments to UN Regulation No. 93 for consideration at their June 2020 sessions and thus providing for reconsideration by GRSG at its 118th session.

#### **XIV. UN Regulation No. 116 (Anti-theft and alarm systems) (agenda item 13)**

*Documentation:* ECE/TRANS/WP.29/GRSG/2019/07  
ECE/TRANS/WP.29/GRSG/2019/20  
ECE/TRANS/WP.29/GRSG/2019/21  
ECE/TRANS/WP.29/GRSG/2019/22

Informal documents GRSG-117-11, GRSG-117-12, GRSG-117-13, GRSG-117-14, GRSG-117-29 and GRSG-117-31

52. The expert from OICA presented GRSG-117-31 amending ECE/TRANS/WP.29/GRSG/2019/07 to amend the definition of keys that take account of innovative vehicle alarms systems, such as silent alarm or door-unlocking using smart phone. GRSG agreed that further work was needed and to this end considered establishment of a task force. Experts of France, Germany, Netherlands and United Kingdom showed interest in this work.

53. The expert from OICA presented GRSG-117-29 providing an overview of the splitting of UN Regulation No. 116 into three new regulations on (i) anti-theft and alarm systems, (ii) on devices against unauthorized use and (iii) on approvals of immobilizers and vehicle with regards to its immobilizer.

54. GRSG agreed to resume consideration on this item at its next session in March 2020.

#### **XV. UN Regulation No. 121 (Identification of controls, tell-tales and indicators) (agenda item 14)**

*Documentation:* ECE/TRANS/WP.29/GRSG/2019/17

55. The expert from OICA introduced ECE/TRANS/WP.29/GRSG/2019/17 to use more colours to convey information via existing tell-tales. Upon request by experts from different contracting parties, she explained the principle colour coding, namely "green" for function running, "yellow" for information warning, "red" for danger warning, "white" for information and "blue" for information of high beam.

56. GRSG adopted ECE/TRANS/WP.29/GRSG/2019/17 and requested the secretariat to submit it to WP.29 and AC.1 as draft supplement 04 to the 01 series of amendments to UN Regulation No. 121 for consideration at their March 2020 sessions.

#### **XVI. UN Regulation No. 122 (Heating systems) (agenda item 15)**

*Documentation:* ECE/TRANS/WP.29/GRSG/2019/29

57. The expert from CLEPA presented ECE/TRANS/WP.29/GRSG/2019/29 proposing the removal of Annex 4 tests for heat pumps.

58. GRSG adopted ECE/TRANS/WP.29/GRSG/2019/29 and requested the secretariat to submit it to WP.29 and AC.1 as draft supplement 06 to UN Regulation No. 122 for consideration at their March 2020 sessions.

## **XVII. UN Regulation No. 144 (Accident Emergency Call Systems) (agenda item 16)**

*Documentation:* (ECE/TRANS/WP.29/GRSG/2018/23)  
ECE/TRANS/WP.29/GRSG/2019/18  
ECE/TRANS/WP.29/GRSG/2019/23  
Informal documents GRSG-117-02, GRSG-117-30 and GRSG-117-47

59. The expert from OICA recalled that the purpose of ECE/TRANS/WP.29/GRSG/2018/23 was to correct the scope of the UN Regulation. The expert from the Russian Federation proposed further editorial corrections and amendments (ECE/TRANS/WP.29/GRSG/2019/18) which allow contracting parties to apply the relevant requirements to assess compliance of Accident Emergency Call Devices (AECD) designed for installation on vehicles of categories other than M<sub>1</sub> and N<sub>1</sub>. The expert from the Russian Federation introduced ECE/TRANS/WP.29/GRSG/2019/23 extending the scope of application for AECD, if fitted to other categories than M<sub>1</sub> and N<sub>1</sub>.

60. GRSG welcomed GRSG-117-47 prepared by the expert of the Russian Federation providing a consolidated text of the regulation including the necessary corrections and proposed amendments.

61. The secretariat presented GRSG-177.02 informing GRSG on an inconsistency with the wording of subsection 26.7.23. of UN Regulation No.144. GRSG approved the deletion of the term "back-up" in subsection 26.7.23.

62. GRSG adopted ECE/TRANS/WP.29/GRSG/2019/18 and requested the secretariat to submit it together with the rectified wording of subsection 26.7.2.3. (see para. 61 above) to WP.29 and AC.1 as draft supplement 01 to UN Regulation No. 144 for consideration at their March 2020 sessions.

63. GRSG adopted GRSG-117-30 and requested the secretariat to submit it to WP.29 and AC.1 as draft supplement 02 to UN Regulation No. 144 for consideration at their March 2020 sessions.

64. GRSG adopted ECE/TRANS/WP.29/GRSG/2019/23 and requested the secretariat to submit it to WP.29 and AC.1 as draft 01 series of amendments to UN Regulation No. 144 for consideration at their March 2020 sessions.

## **XVIII. UN Regulation No. 0 (International Whole Vehicle Type Approval) (agenda item 17)**

*Documentation:* Informal documents WP.29-178-04 and GRSG-116-47

65. GRSG noted that the secretariat had transmitted GRSG-116-47 with candidate items for technical regulations applicable for the second phase to IWG on IWVTA for consideration at its meeting in June 2019. This information had been imbedded in WP.29-178-04.

## **XIX. Consolidated Resolution on the construction of vehicles (R.E.3) (agenda item 18)**

*Documentation:* ECE/TRANS/WP.29/GRSG/2019/8  
Informal document GRSG-117-33

66. The secretariat presented GRSG-117-33 on behalf of Egypt proposing several amendments to the Consolidated Resolution on the construction of vehicles, R.E.3. GRSG considered the several of the amendments as logical while others would need further review. GRSG agreed to resume consideration on GRSG-117-33 on basis of an official documents at its next session.

67. The expert from IMMA recalled ECE/TRANS/WP.29/GRSG/2019/8 and informed GRSG that the check if a parallel amendment to the Special Resolution No. 1 (S.R.1) under the 1998 Agreement was necessary was not finalized. GRSG agreed to keep this item on its agenda.

## **XX. Event Data Recorder (agenda item 19)**

*Documentation:* ECE/TRANS/WP.29/1147  
Informal documents GRSG-117-05, GRSG-117-21 and GRSG-117-22

68. The expert from Netherlands, Co-Chair of IWG on Event Data Recorder (EDR) / Data Storage Systems for Automated Driving (DSSAD) introduced GRSG-117-21 containing a status report of the activities of IWG. GRSG noted the questions related to the place to store the data (on-board or at a back-end). GRSG agreed to continue considerations on these questions at the next meeting.

69. GRSG noted GRSG-117-22 containing a comparison on scope, system and data technique for both EDR and DSSAD. As regards the scope, GRSG agreed that both the 1958 and the 1998 Agreement would need to be referenced. The expert for Netherlands confirmed that the final deliverable would be a proposal for technical requirements, neutral for use under both agreements. GRSG noted that the document would be presented as informal document to WP.29 at its upcoming session in November 2019.

70. The expert from China presented GRSG-117-05 introducing the Chinese mandatory national standard "Automobile Event Data Recorder System". The Co-Chair of IWG on EDR/DSSAD proposed to work closely with China when establishing the different technical elements for EDR systems.

71. GRSG agreed to resume consideration of this subject at its next session.

## **XXI. Exchange of views on Vehicle Automation (agenda item 20)**

*Documentation:* ECE/TRANS/WP.29/2019/34/Rev.1

72. The Secretary of GRVA introduced ECE/TRANS/WP.29/2019/34/Rev.1, the framework document on automated/autonomous vehicles. He further informed GRSG on the establishment of new IWGs for functional requirements for automated vehicles, validation methods for automated driving, EDR/DSSAD and Cyber Security/OTA.

73. Following questions from delegates, GRSG noted that elements related to human-machine interface (HMI) and other activities than driving that were currently under discussion at the Global Forum for Road Safety (WP.1) would also be covered under IWG on functional requirements for automated vehicles, while elements for driver monitoring were still discussed by IWG on Automated Controlled Steering Functions (ACSF).

## **XXII. Election of officers (agenda item 21)**

74. In compliance with Rule 37 of the Rules of Procedure (TRANS/WP.29/690 as amended by Amendments 1 and 2), GRSG called for the election of officers on Wednesday, 9 October 2019. Mr. A. Erario (Italy) was unanimously re-elected as Chair and Mr. K. Hendershot (Canada) as Vice-Chair for the GRSG sessions scheduled for 2020.

## **XXIII. Other business (agenda item 22)**

### **A. Door opening warning system**

*Documentation:* ECE/TRANS/WP.29/GRE/2019/8

75. The expert from Germany introduced ECE/TRANS/WP.29/GRE/2019/8 proposing the activation of hazard warning lights when opening a door in vehicles not equipped with a door assistance and warning system, which had been forwarded to GRSG for consideration.

76. GRSG agreed that the proposed solution was not favoured by the group as it was not clear whom to warn, persons inside the vehicle or those outside, whether the warning would come too late anyhow or whether other solutions such as sensors would be more effective.

### **B. Proposed amendment to Resolution R.E.6**

*Documentation:* ECE/TRANS/WP.29/2019/120

77. GRSG noted ECE/TRANS/WP.29/2019/120 introducing elements for technical roadside inspections for the enforcement of vehicle safety of commercial vehicles based on a risk rating system for operators.

78. The expert of the EC announced that they would comment on the proposal at WP.29.

### **C. Implementation of the ITC Strategy**

*Documentation:* ECE/TRANS/288, Add.1 and Add.2  
Informal document No. 5 (restricted), seventh session of the ITC Bureau in 2019

79. The secretariat introduced ITC Strategy until 2030 and recalled the request to GRSG to follow-up by aligning its work with the strategy. To help countries, particularly new contracting parties, to further implement legal instruments in the area of road safety, the secretariat has prepared the draft ITC Recommendations for Enhancing National Road Safety Systems for comments by the Working Parties.

80. GRSG noted the request by ITC and agreed to have a common response through WP.29.

### **D. Priority topics for GRSG activities**

*Documentation:* Informal document GRSG-117-53

81. The secretary introduced GRSG-117-53 listing potential priority topics for the future work of GRSG. Following active discussions by GRSG delegates, GRSG agreed on a revised version GRSG-117-53-Rev.1 that would provide for the input by the Chair to Administrative Committee AC.2 at its next meeting.

## **E. Any other business**

*Documentation:* Informal documents GRSG-117-27 and GRSG-117-19

82. The expert from OICA introduced GRSG-117-27 on a Field of View Assistant (FOVA) including augmented reality. GRSG experts engaged in active discussion highlighting both pros and cons of such technology. Recognising the need for regulatory action, GRSG agreed to keep this item on the agenda and invited the expert from OICA to come up with a related proposal for the next session of GRSG.

83. The expert from RVIA introduced GRSG-117-19 highlighting specificities of recreation vehicles and asked for the establishment of an IWG on caravans and motorhomes. The Chair concluded the short discussion of delegates by proposing to keep this item on the agenda and invited contracting parties to reflect on the proposed IWG.

## **XXIV. Provisional agenda for the 118th session**

84. The following provisional agenda was adopted for the 118th session of GRSG, scheduled to be held in Geneva from 30 March (2.30 p.m.) to 3 April (12.30 p.m.) 2020:<sup>1</sup>

1. Adoption of the agenda.
2. Amendments to regulations on buses and coaches:
  - (a) UN Regulation No. 107 (M<sub>2</sub> and M<sub>3</sub> vehicles);
  - (b) UN Regulation No. 118 (Burning behaviour of materials).
3. UN Regulation No. 26 (External projections of passenger cars).
4. Amendments to safety glazing regulations:
  - (a) UN Global Technical Regulation No. 6 (Safety glazing);
  - (b) UN Regulation No. 43 (Safety glazing).
5. Awareness of the proximity of Vulnerable Road Users:
  - (a) UN Regulation No. 46 (Devices for indirect vision);
  - (b) New UN Regulation on Blind Spot Information Systems.
6. UN Regulation No. 55 (Mechanical couplings).
7. UN Regulation No. 58 (Rear underrun protective devices).
8. Amendments to gas-fuelled vehicle regulations:
  - (a) UN Regulation No. 67 (LPG vehicles);
  - (b) UN Regulation No. 110 (CNG and LNG vehicles).
9. UN Regulation No. 93 (Front underrun protection).
10. UN Regulation No. 116 (Anti-theft and alarm systems).
11. UN Regulation No. 0 (International Whole Vehicle Type Approval).

<sup>1</sup> GRSG noted that the deadline for submission of official documents to the ECE secretariat was 6 January 2020, twelve weeks prior to the session.

12. Consolidated Resolution on the Construction of Vehicles.
13. Event Data Recorder.
14. Exchange of views on Vehicle Automation.
15. Other business.



## Annex I

[English only]

**List of informal documents considered during the session****List of informal documents (GRSG-117-...) distributed during the session (English only)**

<i>No.</i>	<i>(Author) Title</i>	<i>Follow-up</i>
1	(GRSG Chair) Running order of the 117th session of GRSG (8-11 October 2019)	(c)
2	(Secretariat) Request for clarification of a possible inconsistency in UN Regulation No. 144	(a)
3	(Spain) Proposal for amendments to UN Regulation No. 107 (Uniform provisions concerning the approval of category M2 or M3 vehicles with regard to their general construction)	(b)
4	(Chairman of the TF on RWS) Status of discussion after 8 <sup>th</sup> meeting	(c)
5	(China Automotive Technology and Research Center Co) Chinese Mandatory National Standard GB “Automobile Event Data Recorder system”	(c)
6	(Finland) Draft amendments to UN Regulation No. 55 (Mechanical couplings)	(b)
7	(France) Status of the French legislation on shuttles	(d)
8	(France) Behaviour of M2 & M3 general construction in case of Fire Event	(c)
9	(France) Suggestion for an amendment to UN Regulation No. 55 (Mechanical coupling)	(d)
10	(France) Arrêté du 6 mai 2019 définissant les conditions d’homologation, d’exploitation et de circulation des navettes urbaines	(c)
11	(TF-EMC) Status report to GRSG-117: Proposal for updated R116 EMC annexes	(c)
12	(TF-EMC) Proposal for amendments to GRSG/2019/21	(b)
13	(TF-EMC) Proposal for amendments to GRSG/2019/20	(b)
14	(TF-EMC) Proposal for amendments to GRSG/2019/22	(b)
15	(Italy) Proposal for amendments to UN Regulation No. 67 (LPG vehicles)	(b)
16	(Italy) Proposal for amendments to UN Regulation No. 46 (Devices for indirect vision)	(d)
17	(Italy) Proposal to include free from mirrors in Reg. ECE 46.06	(d)
18	(NGV Global) Proposal for amendments to ECE/TRANS/WP.29/GRSG/2019/26/Rev.1	(a)
19	(RV Industry Association) Recreation Vehicles and GRSG: Caravans, Campers, Mobile Homes, Mobile Command Centers, and Other RV Applications under GRSG	(c)
20	(Secretariat) Updated provisional agenda for the 117th session of GRSG - listing informal documents up until and including GRSG-117-26	(c)
20-Rev.1	Ibid	(c)
20-Rev.2	Ibid	(c)
21	(EDR/DSSAD IWG) EDR/DSSAD IWG Status Report	(d)
22	(EDR/DSSAD IWG) EDR-DSSAD: Comparison table	(c)
23	(VRU-Proxi IWG) Proposal for a Supplement to UN Regulation No. 151	(c)
24	(VRU-Proxi IWG) Proposal for amendments to Regulation No. [151] (Blind Spot Information Systems for Heavy Vehicles)	(c)
24-Rev1.	Ibid	(a)

<i>No.</i>	<i>(Author) Title</i>	<i>Follow-up</i>
25	(European Commission) Proposal for the 02 series of amendments to UN Regulation No. 55 (Mechanical couplings)	(a)
26	(OICA) UN R26 (external projections) Comments to document GRSG/2019/11 Current production radius analysis	(c)
27	(OICA) Direct driving field of vision – Towards a Field Of View Assistant (FOVA)	(c)
28	(OICA) Proposal for amendments to UN Regulation No. 110	(c)
29	(OICA) UN R116 – Split for IWVTA / New Regulations	(c)
30	(OICA) Proposal for a Supplement to the 03 series of amendments to UN Regulation No. 144	(a)
31	(OICA) Proposal for a new series of amendments to UN Regulation No. 116 (Anti-theft and alarm systems)	(d)
32	(Korea) Camera monitoring system issues in Korea	(d)
33	(Egypt) Proposal for amendments to R.E.3	(b)
34	(Japan) Status report of Reversing Motion in VRU-Proxi INWG	(d)
35	(OICA) Proposal to withdraw ECE/TRANS/WP.29/2019/93	(a/d)
36	(OICA) Comments on ECE/TRANS/WP.29/GRSG/2019/19	(c)
37	(Korea) Progress report of IWG on PSG	(c)
38	(PSG) Status report of IWG on PSG on M.R. [4]	(c)
39	(PSG) Proposal for a new M.R. [4] on PSG	(b)
40	(Germany) Proposal for amendments to ECE/TRANS/WP.29/GRSG/2019/27	(c)
40-Rev1	Ibid	(c)
40-Rev.2	Ibid	(c)
40-Rev.3	Ibid	(a)
41	(Germany) Proposal for a corrigendum to UN Regulation No. 46	(b)
42	(Germany) Proposal for a corrigendum to UN Regulation No. 46	(b)
43	(Korea) Proposal for amendments to ECE/TRANS/WP.29/GRSG/2019/33	(c)
44	(OICA) Proposal for amendments to ECE/TRANS/WP29/GRSG/2019/34	(c)
44-Rev.1	Ibid	(a)
45	(OICA) Proposal for amendments to ECE/TRANS/WP29/GRSG/2019/2	(a)
46	(CLEPA) Proposal for amendment to ECE/TRANS/WP.29/GRSG/2019/32	(c)
47	(Russian Federation) Proposal for a consolidated 01 series of amendments to UN Regulation No. 144	(c)
48	(European Commission) Proposal for amendments to ECE/TRANS/WP29/GRSG/2019/19	(c)
49	(Korea) Proposal for amendments to ECE/TRANS/WP.29/GRSG/2019/33	(a)
50	(European Commission) Proposal for amendments to ECE/TRANS/WP.29/GRSG/2019/32	(c)
51	(OICA) Proposal for amendments to GRSG-117-50	(a)
52	(Liquid Gas Europe) Proposal for amendments to UN Regulation No. 67	(c)
53	(Secretariat) GRSG priorities – proposal	(c)
53-Rev.1	Ibid	(d)
54	(OICA) Proposal for amendments ECE/TRANS/WP.29/GRSG/2019/30	(a)
55	(EC) Proposal based on GRSG-117-48	(a)

*Notes:*

- (a) Adopted/endorsed for consideration at WP.29.
- (b) Resume consideration on the basis of an official document.
- (c) Consideration completed or to be superseded.
- (d) Resume consideration at next session

## Annex II

### Proposal for amendments to UN Regulation No. [151] (Blind Spot Information Systems for Heavy Vehicles)

The text reproduced below is based on ECE/TRANS/WP.29/2019/28 as amended by GRSG-117-23 and GRSG-117-24-Rev.1. The modifications to the existing text of the draft Regulation (see ECE/TRANS/WP.29/2019/28) are marked in bold for new or strikethrough for deleted characters.

#### I. Proposal

*Insert a new paragraph 0.7., to read:*

**“0.7 This regulation allows the technical services to test other, more or less random, parameter combinations that are not laid down in the table 1 in Appendix 1. It is anticipated that the systems will be more robust, but it makes the test procedure also more complex:**

**To be able to appropriately analyse the pass or fail of the system according to the requirements in paragraph 5, annex 3 is included to calculate pass and fail values. There could, however, be contradicting requirements where an information signal is not allowed for one test case, but is required for another, in the exact same relative positions of bicycle and vehicle, but for different assumed turn radii and impact positions (which are not detectable by the system at the points of information).**

**Therefore, the evaluation of the criterium “first point of information” is not carried out for these kinds of tests; it shall be considered sufficient if the false information test (traffic sign) is passed.”**

*Paragraph 2.16., amend to read:*

**“2.16. "Vehicle front right corner" means the projection of the point that results from the intersection of the vehicle side plane (not including devices for indirect vision) and the vehicle front plane (not including devices for indirect vision and any part of the vehicle which is more than 2.0 m above the ground) on the road surface.”**

*Paragraph 5.2., amend to read:*

**“5.2. General requirements**

**5.2.1. The effectiveness of the BSIS shall not be adversely affected by magnetic or electrical fields. This shall be demonstrated by compliance with the technical requirements and transitional provisions of UN Regulation No. 10, 04 series of amendments or any later series of amendments.**

**5.2.2. With the exception of BSIS external elements which are part of another device subject to specific protrusion requirements, BSIS external elements may protrude up to 100 mm beyond the width of the vehicle.”**

*Paragraph 5.3.1.4., amend to read:*

**“5.3.1.4. The BSIS shall give an information signal at last point of information, for a bicycle moving with a speed between 5 km/h and 20 km/h, at a lateral**

separation between bicycle and vehicle of between 0.9 and 4.25 metres, which could result in a collision between bicycle and vehicle with an impact position 0 to 6 m with respect to the vehicle front right corner, if typical steering motion would be applied by the vehicle driver. **However, the information signal is not required when the relative longitudinal distance between bicycle and front right corner of the vehicle is more than [30] m to the rear or [7] m to the front.**

*Paragraph 6.5.1.*, amend to read:

“6.5.1. Using ~~cones~~ **markers** and the bicycle dummy, form a corridor according to Figure 1 in Appendix 1 to this Regulation and the additional dimensions as specified in Table 1 of Appendix 1 to this Regulation.”

*Paragraph 6.5.8.*, amend to read:

“6.5.8. Verify that the Blind Spot Information signal has not been activated when passing the traffic sign and any ~~cones~~ **markers** as long as the bicycle dummy is still stationary.”

*Paragraph 6.7.*, amend to read (from informal document GRSG-117-24):

“6.7. The manufacturer shall demonstrate, to the satisfaction of the Technical Service and Type Approval Authority, through the use of documentation, simulation or any other means, that the Blind Spot Information signal is not activated, as described in paragraph 6.5.10., when the vehicle passes any other usual stationary object than the traffic sign. In particular, parked cars **and traffic cones** shall be addressed.”

*Paragraphs 6.5.9 to 6.5.10.*, amend to read:

“6.5.9. Repeat paragraphs 6.5.1. to 6.5.8. for test cases shown in Table 1 of Appendix 1 to this Regulation.

Where this is deemed justified, the Technical Service may select **additional** test cases different than shown in Table 1 of Appendix 1, within the range of vehicle speed, bicycle speed and lateral clearance as indicated in paragraphs 5.3.1.3. and 5.3.1.4.

The Technical Service shall check that the parameter combination in the selected test cases would lead to a collision between the bicycle and the vehicle with an impact position in the range as specified in paragraph 5.3.1.4. and shall assure that the vehicle is moving with the selected speed when crossing line C in Figure 1 of Annex 1 by appropriately adjusting starting distances and corridor length for the vehicle and the bicycle.

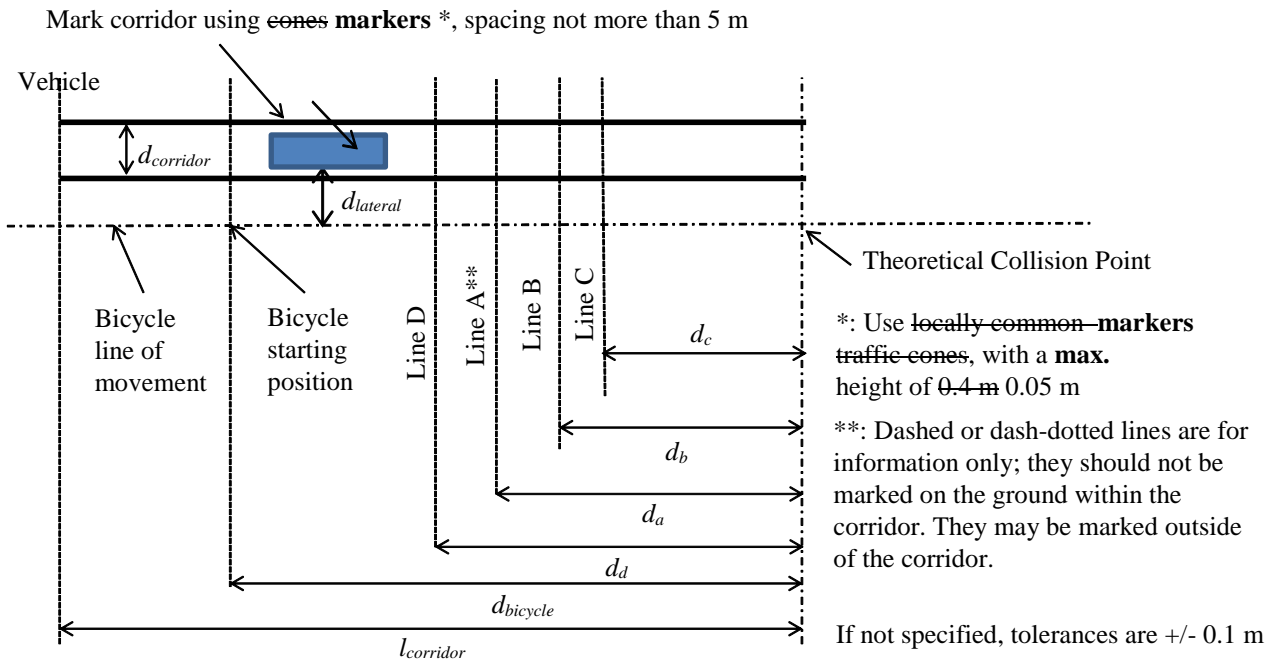
**The criterium “first point of information” is deemed to be complied with when test cases other than those from table 1 in appendix 1 to this regulation are carried out.”**

6.5.10. The test is passed when the Blind Spot Information signal has been activated in all test cases as shown in Table 1 of Appendix 1 to this Regulation before the **foremost point of the vehicle has reached** ~~crossed~~ line C **but not before the foremost point of the vehicle has reached line D** (see paragraph 6.5.7. above, **where line D is only relevant for test cases taken from Table 1 of Appendix 1**) and the Blind Spot Information signal has not been activated in any test run when the vehicle passes the traffic sign (see paragraph 6.5.8. above). **However, the information signal is not required when the relative longitudinal distance between bicycle and front right corner of the vehicle is more than [30] m to the rear or [7] m to the front.**

For vehicle speeds up to 5 km/h, it is deemed satisfactory if the information signal is activated 1.4 seconds before the bicycle has reached the theoretical collision point as specified in Appendix 1, Figure 1. ~~For vehicle speeds between 5 and 10 km/h, the value  $d_c$  shall be 5 m.~~

For vehicle speeds above 25 km/h, where the stopping distance is higher than 15 m,  $d_c$  as specified in Appendix 1, Figure 1 shall be as specified in Appendix 1, Table 2.

Appendix 1, Figure 1, amend to read:



Appendix 1, Table 1, amend to read:

Test Case	V <sub>bicycle</sub> [km/h]	V <sub>Vehicle</sub> [km/h]	d <sub>lateral</sub> [m]	d <sub>a</sub> [m]	d <sub>b</sub> [m]	d <sub>c</sub> [m]	d <sub>a</sub> [m]	d <sub>bicycle</sub> [m]	l <sub>corridor</sub> [m]	d <sub>corridor</sub> [m]	For information only (not influencing test parameters)		
											Impact Position [m]	Turn Radius [m]	
1	20	10	1.25	44.4	15.8	15	26.1	65	80	vehicle width + 1 m	6	5	
2	20	10			22	15	32.3				0	10	
3	20	20			38.3	38.3	65 -				6	25	
4	10	20	4.25	22.2	43.5	15	43.2				0	25	
5	10	10			19.8	19.8	65 -				0	5	
6	20	10			44.4	14.7	15				26.1	6	10
7						17.7					29.1	3	10

Annex 3, final paragraphs, amend to read:

“For vehicle speeds below 5 km/h, it is sufficient if the information signal is given at a distance corresponding to a TTC value of 1.4 seconds (similar to the static tests) ~~and for vehicle speeds above 5 and below 10 km/h, the value d<sub>c</sub> is reduced to 5 m.~~

Finally, ~~d<sub>a</sub> is the first point of information. It can be calculated by adding the distance corresponding to 4 seconds of vehicle travel time to d<sub>c</sub> and correcting for the impact position in case the impact position is not 6 m:~~

$$d_a = d_c + 4s \cdot v_{\text{vehicle}} + (6m - \text{Impact Position}).$$

~~These formulas allow to completely populate Table 1 in Appendix 1 for test cases other than those defined there.”~~

## Annex III

## GRSG informal working groups

<i>Informal working group</i>	<i>Chair</i>	<i>Secretary</i>
Panoramic Sunroof Glazing (PSG)	Mr. S. B. Eom (Republic of Korea) (co-chaired by Mr. Th. Fuhrmann-Baecker (Germany)) Tel: +82 31 3690217 email: sbeom@ts2020.kr	Mr. S. Müller von Kralik (CLEPA) Tel: +49 89 85794 1625 email: Bianca.Reptr@webasto.com
Awareness of Vulnerable Road Users proximity (VRU-Proxi)	Mr. Y. Matsui (Japan) (Chair) Mr. P. Broertjes (EC) (Vice-Chair) Tel: +81 422 41 3371 email: ymatsui@ntsel.go.jp Tel: +32 2 299 49 33 email: peter.broertjes@ec.europa.eu	Mr. Johan Broeders (OICA) Tel: ++31 40 214 5033 email: johan.broeders@daftrucks.com
Behaviour of M <sub>2</sub> and M <sub>3</sub> vehicles' general construction in case of Fire Event (BMFE)	Mr. F. Herveleu (France) (Chair) Tel: +33 1 69 803407 email: fabrice.herveleu@utacceram.com	Mr. O. Fontaine (OICA) Tel: +33 1 43590013 email: ofontaine@oica.net
Event Data Recorder and Data Storage System for Automated Driving (EDR/DSSAD)	Mr. T. Guiting (Netherlands)* Mr. Niikuni (Japan)* Ms. J. Doherty (US)*	Mr. O. Fontaine (OICA)

\* Co-Chairs of IWG