

Proposals from the Informal Working Group on AEBS to amend UN R152

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- 00 and 01 Series amendments of UN Regulation
 - GRVA-2020-17 (Robustness of the system)
 - GRVA-05-35 (Amendment of corrigendum)

4th GRVA in September 2019:

Requirement for 2nd step of C2P → GRVA-2019-16

Amendments to existing regulation → GRVA-2019-17

**GRVA agreed to continue the discussions about
“Repeatability of test runs” and “Car to Bicycle scenario”**



IWG meetings 10th meeting in Brussels (28-29 November 2019)

11th meeting in Paris (6-7 February 2020)



5th GRVA in February 2020:

Robustness of the system → **GRVA-2020-17**

This presentation shows the proposal for
“Robustness of the system”
and the status report for
“Car to Bicycle scenario”

**00 and 01 Series amendment of R152
GRVA-2020-17 (Robustness of the system)**

New amendments to UN R152 (00 and 01 series)

(GRVA-2020-17)

[6.10. Repeatability of test runs

- 6.10.1. [Any of the above test scenarios [,where a scenario describes one test setup at one subject vehicle speed at one load condition] shall be performed two times. If one of the two test runs fails to meet the required performance, the test may be repeated once. A test scenario shall be accounted as passed if the required performance is met in two test runs. [The total number of failed test runs shall not exceed [10%] of all performed test runs of all Car to Car and Car to Pedestrian scenarios in all load conditions.]]**
- 6.10.2. The root cause of any failed test run shall be analysed.**
- 6.10.3. During the assessment per Annex 3, the manufacturer shall demonstrate via appropriate documentation that the system is capable of reliably delivering the required performances.]**



OICA proposed “Repeatability of test runs” at that GRVA session (GRVA-04-11)

Title:

“Repeatability of test runs”



“Robustness of the system”

Example of Detail: Number of tests: Two times in each test conditions

No	First test	Second test	One more test (Either is NG)	Requirement
1	○	○	-	Pass
2	○	×	○	Pass
3	○	×	×	Fail
4	×	×	-	Fail

Percentage of failed tests:

The number of failed tests shall not exceed **10.0 %** in each category (Car to Car and Car to Pedestrian).

Investigation of the failure cause:

The root cause of any failed test run shall be analysed together with the Technical Service and annexed to the test report.

Investigation of the failure cause:

If the root cause cannot be linked to a deviation in the test setup, the technical service may test any other speeds ~~for subject vehicle and target vehicle~~ within the speed range as defined in paragraph 5.2.1.3., **5.2.1.4.**, 5.2.2.3. or 5.2.2.4. as relevant.

Para. 5.2.1.3.

Test vehicle speed range:
Between 10 km/h and 60 km/h



Para. 5.2.1.4. Requirement for M1

vehicle Speed (km/h)	Stationary/ Moving	
	Maximum mass	Mass in running order
10	0.00	0.00
15	0.00	0.00
20	0.00	0.00
25	0.00	0.00
30	0.00	0.00
35	0.00	0.00
40	0.00	0.00
42	10.00	0.00
45	15.00	15.00
50	25.00	25.00
55	30.00	30.00
60	35.00	35.00



Technical service may test within the required speed range

Demonstration of system:

During the assessment per Annex 3 (Special requirements to be applied to the safety aspects of electronic control systems), the manufacturer shall demonstrate via appropriate documentation that the system is capable of reliably delivering the required performances.



Car to Bicycle scenario

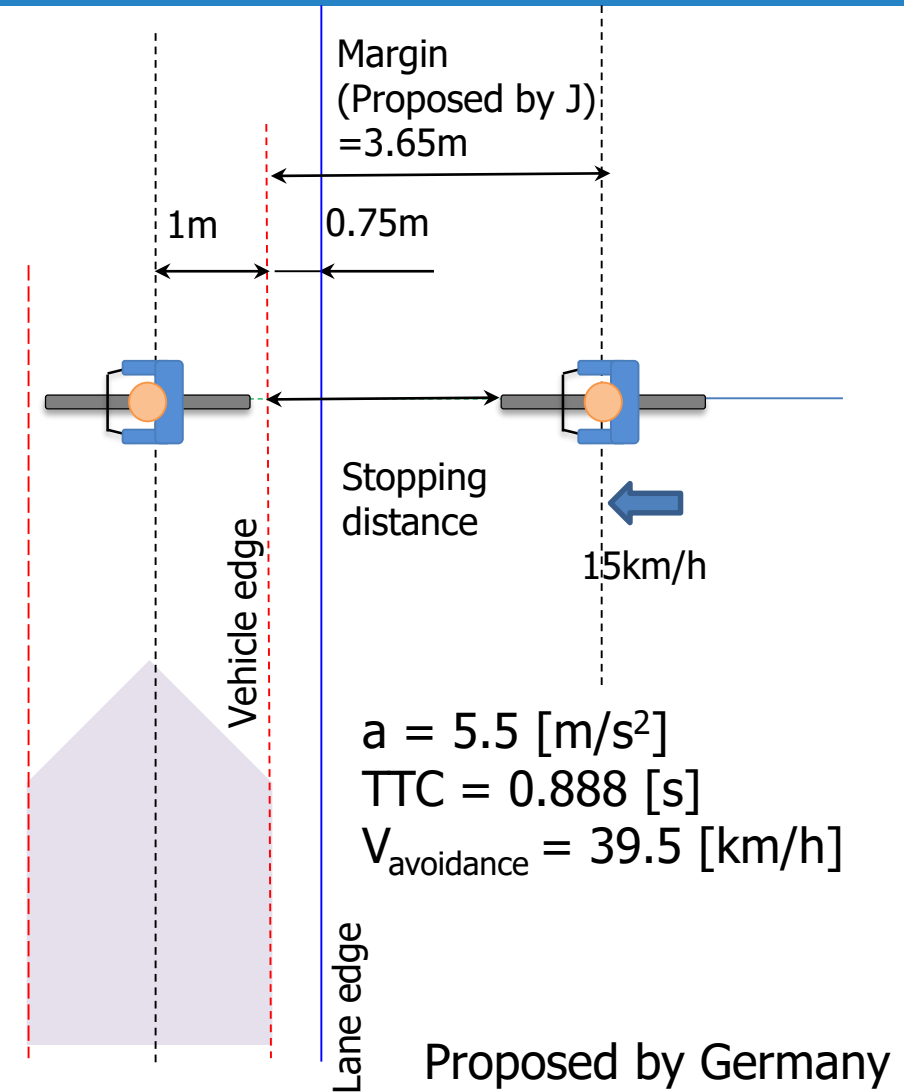
The group still faces difficulty in agreeing on performance requirements for the car to bicycle collision given the lack of vehicles with this technology on the market. Consequently, the informal working group agreed to consider car-to-bicycle at a later stage, when more data is available.

Proposal to GRVA

“GRVA agreed the extension of mandate to adequately address Car to Bicycle scenario (e.g. 7th GRVA - September 2020), when more data is available.”

- Scenario of C2B
- Accident data
- Euro NCAP
- Lower Speed (LS) of Ego vehicle
LS = 20 km/h, LS = 35 km/h
- Reference point for requirements

We need further clarification



Target:
Proposal of working document for Car to Bicycle in Sep. session of GRVA (7th GRVA)

Thank you for your attention

IWG meetings 12th meeting in Tokyo

(14-15 May 2020)

IWG meetings 13th meeting in Brussels or Geneva

(25-26 June 2020)