

DRAFT MINUTES

12th meeting of the Informal Working Group (IWG) on Advanced Emergency Braking Systems (AEBS) for light vehicles

14-15 May 2020,
On Web

Time: Start at 09:00 am CEST (4:00 pm JST – 8:00 am BST)
Finish at 11:00 am CEST (6:00 pm JST – 10:00 BST)

Venue: Web

Chairman: Mr. Antony Lagrange (EC) and Mr. Toshiya Hirose (Japan)

Secretariat: Mr. Yukihiro Shiomi (Japan) and Mr. Olivier Fontaine (OICA)

1. Welcome and Introduction

2. Approval of the agenda

Document:

- AEBS-12-01-r1 (Chair)
- AEBS-12-12 (Chair) Status report of AEBS activities related WP29

3. Discussion on AEBS for Car to Bicycle scenario

Document:

- AEBS-12-02 Draft regulation for 02 series amendment
- AEBS-11-14 Secretary notes of 11th meeting V2
- GRVA-2019-05 Draft regulation for car to bicycle
- AEBS-12-03 (Chair) Reference for the calculation of requirements
- AEBS-12-04 (BASt) Bicycle acceleration phase
- AEBS-12-05 (CLEPA-OICA) Draft C2B_IndustryComments
- AEBS-12-05-r1 (CLEPA-OICA) Draft C2B_IndustryComments with BASt and Hirose san changes
- AEBS-12-08 (CLEPA-OICA) Input AEBS 12
- AEBS-12-13 (Chair) Corrigendum in N1 requirement_Ver.2

Document AEBS-12-05-r1 is the reference document for the meeting since it is the most complete version of the draft text.

Scenario : (paragraph 5.2.3.1.): agreed as proposed by Japan/DE.

Bicycle and vehicle reference points: agreed as per document AEBS-12-03

Impact of the Bicycle speed (paragraph 5.2.3.4.(a)) on the achievable upper speed limit for full collision avoidance:

Proposals for full avoidance are 38km/h vs. 42 km/h for category M1

D: suggests the compromise at 40 km/h

OICA: can accept if the approach of a bicycle speed range is adopted since the value of the bicycle lower speed is important in the C2B scenario:

- Stopping distance was not a criterion in the C2P scenario

- In C2B, the results of the equations depend on the bicycle speed, hence e.g. 5 km/h in C2B does not give the same results as in the C2P

The effect of lower bicycle speed on achievable collision avoidance performance was then discussed. D found it difficult to explain to the public that “an accident was not avoided because the speed was too low”.

Conclusion for bicycle speed:

- 10-15 km/h agreed
- wording "perpendicular" instead of "90°±3"
- still to be considered whether this wording can be used in C2P scenario

Upper speed limit for full avoidance (paragraph 5.2.3.3. and table of paragraph 5.2.3.4.):

M1 category:

D:

- M1: 40 km/h
- N1: 38 km/h

J:

- Mass in running order, M1 40 km/h as a compromise (supported by NL, D, UTAC)

IND: can accept M1 40 km/h as a compromise

N1 category:

J: seems correct speed is 36 km/h but J OK to compromise at 35 km/h. J proposed 36 km/h to the group.

IND: lack of experience in that category, hence IND cannot guarantee success for that category at that speed.

Conclusions upper speed limit for full avoidance:

M1: 40 km/h agreed for mass in running order, 38 km/h agreed for maximum mass

N1: 36 km/h proposed by Japan for maximum mass. To be confirmed at the next meeting

2-step approach proposed by Industry especially on lower speed requirements for existing types:

Industry explained the background of the approach per document AEBS-12-08, slides 9-10-11 (sensor opening angle, vehicle lifetime) asking a delay until 2028 for existing vehicles for the application of the full expected performance, especially for lower vehicle speed. New types would be required to comply from 2024.

Debate:

- EuroNCAP results are clear < 35km/h
- EuroNCAP procedure fixed since 2018
- Request from Industry is for existing vehicles only
- EuroNCAP does not request collision avoidance
- EuroNCAP results are currently improving

IND subsequently indicates the concern that the proposed formula used for the performance table is quite a theoretical approach that only partially reflects the reality, mainly in the highest speeds. The D and J approaches show a big difference down from 5 km/h. The decision must be prudent with regard to the J/D approaches.

Industry proposed 10 [+5/-0] km/h. The proposed model itself still concerns IND:

- Classification of the target
- Robustness of the system
- The provision to “not unreasonably switch the control strategy in these other conditions” (paragraph 5.2.3.4.).

The European Commission recalls that the GSR specifies already the dates for equipping all the vehicles (From 7/2026 all vehicles will be required to be equipped with AEBS-cyclist) yet is not including the required performances.

D: proposed 2026 for Step 2 (full performance requirement) as in the GSR.

NL: technically feasible, yet the decision is political/economical.

Performance at 20 km/h for step 2:

IND: technically, the problem of the low speed is that the bicycle and the ego vehicle have the same speed, hence low relative speed which makes the target difficult to detect. As a possible compromise, IND proposed to enlarge

the robustness approach for C2B to 20% repetition (in lieu of 10 % for C2P). The concern is the difficulty to identify the target at the edge of the detection area, the signals are unstable.

J was keen that a row exists for low speeds like 20 km/h

D: requests full avoidance at 20 km/h. Industry said they can accept 20 km/h in step 1, but subject to 20% repetition (see above) robustness.

Conclusion:

- 20-25 km/h proposal to be further discussed at next meeting together with robustness.
- IND to prepare proper justifications for 20% repetition in robustness approach

Performance at 30 km/h for step 1:

IND: offered 10 km/h impact speed as a compromise at 30 km/h. No agreement, to be discussed again at the next meeting.

F proposed to include longitudinal scenario in order to increase the number of tests (in response to the industry request), but chair recalled that the group decided in the past that there will be no longitudinal tests these scenario are better avoided by steering than by emergency braking.

Chair: The chair requests the positions of other contracting parties on the 2-stage approach. He also proposes to consider other options in stage 1 including mitigating the collision for lower speed instead of avoiding it.

NL proposed adding a line at 30 km/h in Step 1, can agree to the idea to define an impact speed instead of full avoidance for lower velocities.

Conclusion on the 2-step approach and performance for lower speeds:

- The group acknowledges that the C2B is less robust than the other scenarios especially at low speeds
- Agreement for New Types (NT) to apply full performance from 2024.
- 2-Stage approach (2026/2028) for existing vehicles and associated requirements to be further discussed at the next meeting

4. Other business

4.1. False Reaction scenarios

Document:

- AEBS-11-10 (F)
- AEBS-10-03 (J)
- AEBS-12-09 (J) additional research of false reaction_20200514
- AEBS-12-10 (J) Relationship between Scenario and Research result example
- AEBS-12-11 (J) amendment proposal of Annex3 Appendix2_20200514

J presented document AEBS-12-09 and AEBS-12-11. Participants are requested to review the slides after the meeting and should address questions directly to J.

Conclusion: item to be reviewed at next meeting, all to review the J documents and proposal in the meantime.

4.2. Automatic AEBS deactivation

Document: GRVA-05-64 (OICA)

Not discussed

4.3. Reference tyre of ASTM

Document: AEBS-11-11 (F)

Not discussed

4.4. Virtual testing

Documents:

- AEBS-12-06 (F) Virtual testing draft proposal
- AEBS-12-07 (UTAC) Virtual testing AEBS

Item postponed to next meeting.

5. List of action items

Plan for next meetings:

AEBS-12-Add.1: 4-5 June,

9:00 am CEST (4:00 pm JST – 8:00 am BST) to 11:00 am CEST (6:00 pm JST – 10:00 BST)

Information for 13th meeting:

Change from a physical meeting to a web meeting:

25-26 June 2020 on Web: 3 hours

Start at 09:00 am CEST (4:00 pm JST – 8:00 am BST)

Finish at 12:00 am CEST (7:00 pm JST – 11:00 BST)