

**Proposed single AEBS regulation
(document ECE/TRANS/WP.29/GRRF/2011/25)
and its proposed concurrently running 01 series of amendments
(document ECE/TRANS/WP.29/2011/26)**

CLEPA opinion:

While CLEPA fully supports the idea of a single AEBS regulation to meet the requirements of all potential contracting parties in the interests of global harmonisation, the current proposal for a new regulation contained in document ECE/TRANS/WP.29/GRRF/2011/25 and a concurrently running 01 series of amendments as proposed in document ECE/TRANS/WP.29/2011/26 is considered not to provide a solution.

The base regulation proposes a 10 km/h speed reduction against a stationary target (70 km/h impact) and a speed reduction of 48 km/h without impact for a moving target (32 km/h target speed) for M₃ and N₃ category vehicles. These values do not do not fully utilize the current potential of AEBS in terms accident severity/injury reduction.

A 20 km/h speed reduction against a stationary target (60 km/h impact) compared with a 10 km/h reduction would reduce the kinetic energy at impact by a factor of 4 (a 618.2 kJ reduction compared with 154.6 kJ for a 40 tonne vehicle combination).

In the case of a moving target, a reduction in the target speed to 12 km/h (a 68 km/h speed reduction for the subject vehicle) would result in a doubling in the kinetic energy lost by the subject vehicle (7136.6 kJ compared with 3553.8 kJ for a 40 tonne vehicle combination).

The above values of “20 km/h” and “12 km/h” are proposed for the 01 series of amendments with a transitional provisions date of 2016 for new type-approvals and 2020 for new registrations. These transitional provisions are considered unnecessary and the “20 km/h” and “12 km/h” values should be in the base regulation.

Requirements for M₂ and N₂ category vehicles are not included in the base regulation and this is considered a significant omission.

While the physical characteristics of M₂ and N₂ category vehicle vary very significantly between the higher and lower ends of the weight range, the difference between a top end M₂ and N₂ and a bottom end M₃ and N₃ is minimal. Therefore, although there is a lack of experience with regard to the driver/vehicle behaviour characteristics of M₂ and N₂ category vehicles, M₃ and N₃ experience can be utilized with regard to mid/heavy weight range M₂ and N₂ vehicles. In addition, N₂ truck-trailer combinations can exceed the weight of N₃ vehicles. As a result, requirements for mid/heavy weight range M₂ and N₂ category vehicles should be included in the base regulation.

A separation by braking system type (e.g. full air, air-over-hydraulic) is proposed, rather than by weight, as not all vehicle manufactures move from one braking system type to another at the same weight. By specifying a weight, a small number of vehicles may have to be fitted with AEBS while the bulk of the model range is not required to have AEBS fitted. The result could be that it was no longer viable to produce these vehicles, with a resulting reduction in customer choice.

M₂ and N₂ vehicles at the low end of the weight range (vacuum hydraulic braking systems) have significantly different vehicle dynamics from those higher up the weight range and as there is a lack of driver/vehicle behaviour experience with these vehicles, they would be included via a future amendment once sufficient experience has been gained to establish appropriate mitigation/avoidance requirements.

The proposed simultaneous running of the base regulation and the 01 series of amendments of a long period of time – some 5 or more years – is considered to be user unfriendly; especially when amendments start to be made as a result of the initial experience gained in using the regulation.

Therefore, no advantage is seen in the proposed low level base regulation and the simultaneous introduction of a long term amendment. The base regulation should include requirements that bring the best accident/injury reduction benefits as early as possible, with higher level requirements and improvements being the subject of future amendments at the appropriate time.
