

Proposal for amendments to GRVA-05-24

Note: This informal document intends to amend to changes proposed in ECE/TRANS/WP.29/GRVA/2020/7 incorporating further feedback received

I. Proposal

Paragraph 5.6.2.1.3., amend to read (insert a new provision):

"5.6.2.1.3. The system shall be designed so that excessive intervention of steering control is suppressed to ensure the steering operability by the driver and to avoid unexpected vehicle behaviour, during its operation. To ensure this, the following requirements shall be fulfilled:

(a) The steering control effort necessary to override the directional control provided by the system shall not exceed 50 N;

(b) The specified maximum lateral acceleration $a_{y_{\text{max}}}$ shall be within the limits as defined in the following table:

Table

1

For vehicles of Category M₁, N₁

Speed range	10 - 60 km/h	> 60 - 100 km/h	> 100 - 130 km/h	> 130 km/h
Maximum value for the specified maximum lateral acceleration	3 m/s ²	3 m/s ²	3 m/s ²	3 m/s ²
Minimum value for the specified maximum lateral acceleration	0 m/s ²	0.5 m/s ²	0.8 m/s ²	0.3 m/s ²

For vehicles of Category M₂, M₃, N₂, N₃

Speed range	10 - 30 km/h	> 30 - 60 km/h	> 60 km/h
Maximum value for the specified maximum lateral acceleration	2.5 m/s ²	2.5 m/s ²	2.5 m/s ²
Minimum value for the specified maximum lateral acceleration	0 m/s ²	0.3 m/s ²	0.5 m/s ²

(c) The moving average over half a second of the lateral jerk generated by the system shall not exceed 5 m/s³.

(d) **Special provision for vehicles of category M₁ ~~4(N1)~~**

~~Notwithstanding the maximum values given in the table above, the manufacturer may declare a value for the specified maximum lateral acceleration $a_{y_{\text{max}}}$ of up to 4 m/s² for~~

~~(i) Vehicle speeds up to 60-80 km/h,~~

~~(ii) Driving situations without heavy rain (e.g. the wipers are not in use at a permanent stage), and~~

~~(iii) Ambient air temperatures above [4]°C~~

~~Where the manufacturer declares a maximum lateral acceleration of $a_{y_{\text{smax}}}$ exceeding 3 m/s^2 , and where the conditions of 5.6.2.1.3. (d) (ii) and (iii) are both satisfied, the system shall linearly reduce the maximum lateral acceleration of $a_{y_{\text{smax}}}$ at 60 km/h to a maximum lateral acceleration of 3 m/s^2 at 80 km/h.~~

~~For vehicle speeds of 80 km/h or greater, the maximum values of table 1 apply regardless of whether the conditions of 5.6.2.1.3. (d) (ii) and (iii) are satisfied.~~

The manufacturer may declare control strategies for when the system would encounter lateral acceleration values exceeding the limits described in the table above due to changes in the radius of curvature of the bend.

In such an event, for vehicle speeds up to 80 kph, the system may exceed the $a_{y_{\text{smaxa}}}$ limit of 3 m/s^2 for a short period of time. If $a_{y_{\text{smax}}}$ is exceeded, the system shall clearly inform the driver by an optical warning signal and additionally by an acoustic or haptic warning signal.

The values given in the table shall apply without exception for any other condition. [This special provision shall be subject to Annex 6 and the manufacturer shall demonstrate, to the satisfaction of the Technical Service, the safety aspects of this special provision.]

II. Justification

1. This informal document intends to amend to changes proposed in ECE/TRANS/WP.29/GRVA/2020/7 incorporating further feedback received