

Proposal for amendments to GRVA-17-05

This document proposes amendments to the speed limit compliance assistance section of informal document GRVA-17-05 amending GRVA/2023/20 on the proposal for a new UN Regulation on uniform provisions concerning the approval of vehicles with regards to Driver Control Assistance Systems.

The proposed amendments reflect the view that considers that drivers should not be able to set the current maximum speed up to which the system will control the vehicle above the system-determined road speed limit.

The changes proposed to the current text of informal document GRVA-17-05 are indicated in ~~strike through~~ for deleted and **bold** for new text.

I. Proposal

Paragraph 5.3.8.2., amend to read:

“5.3.8.2. Speed Limit Compliance Assistance

5.3.8.2.1. The system shall aim to determine the permitted road speed limit or, in the absence of any speed limit signage, the generally recommended maximum road speed limit relevant to the current lane of travel. **In the event that the system cannot determine the applicable speed limit, the speed limit shall default to the national maximum speed limit for the relevant road category.**

5.3.8.2.2. The system shall continuously display the system-determined road speed limit to the driver.

5.3.8.2.3. The system and any of its features shall only provide assistance within their designed speed range.

5.3.8.2.4. The maximum speed up to which the system and any of its features provides assistance shall not exceed the maximum speed limit in the country where the vehicle is currently operating, or their designed speed range, whichever is lower.

5.3.8.2.5. The driver shall not be able to set the driver-set speed limit at a speed greater than the system-determined road speed limit.

5.3.8.2.56. The system shall ~~factor in~~ **consider** at least the following when determining the current maximum speed:

(a) Speed limit set by the driver;

(b) System determined road speed limit.;

~~(c) Override of a system determined road speed limit by the driver.~~

5.3.8.2.67. The system shall automatically control the vehicle speed to not exceed the system determined road speed limit.

5.3.8.2.78. The system ~~shall provide a means~~ **may provide the means** for the driver to override a system-determined road speed limit by ~~setting a new speed limit within the system's designed speed range~~ **input to the accelerator control. Such action shall set longitudinal vehicle control into standby mode.**

5.3.8.2.78.1 Overriding the current maximum speed to exceed the road speed limit determined by the system

- 5.3.8.2.78.1.1. When the vehicle speed exceeds the system-determined road speed limit, the system shall provide at least an optical signal to the driver for an appropriate duration.
- ~~5.3.8.2.78.1.2. In order to restore the current maximum speed to the determined legal road speed limit following a driver override the system shall either:~~
- ~~(a) Reset the current maximum speed to not exceed the determined value, latest when the vehicle passes the next road speed limit sign detected by the system;~~
 - ~~or~~
 - ~~(b) Reset the current maximum speed to not exceed the determined value, latest when the vehicle passes the next road speed limit sign indicating a change in limit compared to that overridden by the driver, provided the speed limit warning according to par. 5.3.8.2.7.1.1. is either continual or repeated for each repeated occurrence of the speed limit that was overridden.~~
- ~~5.3.8.2.72. Overriding the maximum operational speed to a value below the speed limit previously determined by the system~~
- ~~The manufacturer shall demonstrate to the Approval Authority how the speed limit is restored to the system determined speed limit following an override to a lower value.~~
- 5.3.8.2.89. Upon resumption of longitudinal control assistance following a driver override by providing input to the accelerator control, the system shall resume longitudinal control on the basis of the ~~previous maximum speed~~ **system-determined road speed limit or the driver-set speed limit, whichever was used last.**
- 5.3.8.2.910. Any system-initiated change in vehicle speed due to a changed system-determined speed limit shall be controllable to the driver and other road users.
- 5.3.8.2.4011. The system shall not enable the driver to set a default offset by which the current maximum speed is supposed to exceed the system-determined speed limit.
- 5.3.8.2.11.1. The system shall only allow the driver to set or change a default offset when the vehicle is at standstill.**
- 5.3.8.2.412. Technically reasonable tolerances may be applied and shall be declared by the manufacturer to the Approval Authority.
- 5.3.8.2.4213. For those cases not specifically addressed by the provisions above, i.e.
- (a) Driver set speed below the system determined speed limit;
 - (b) Resumption of control following a lower limit set by the driver-;
- ~~The the~~ manufacturer shall demonstrate to the Approval Authority the strategies implemented in the system.
- 5.3.8.2.4314. Where applicable to the above requirements, the manufacturer may evidence compliance with national regulations which regulate the speed limit control system. Where such national or regional regulations exist, the technical performance requirements defined in said regulation shall be complied with. This evidence shall be provided to the Approval Authority.

II. Justification

1. Speed is a major factor in overall road safety performance. Excessive and inappropriate speed is accountable for about one third of fatal collisions in Europe and is an aggravating factor in most collisions.
2. Research has shown that drivers are more likely to drive over the speed limit when using adaptive cruise control (ACC) and Level 2 assisted driving systems. Moreover, the amount by which they

exceed the speed limit when they speed is also greater when they are using the driver assistance functions compared to driving manually.¹

3. Section 5.3.8.2. provides provisions on speed limit compliance assistance. As an assistance system, DCAS should assist the driver in complying with the speed limit when the system is operational. Moreover, DCAS should contribute to improving road safety and should therefore not allow the driver to set the speed above the system-detected speed limit, given the previously mentioned impact of inappropriate speed on road safety. Conversely, a DCAS system that would allow the driver to set the speed above the detected speed limit would instead assist the driver in disobeying traffic laws.
4. It is argued that drivers should be able to set a speed above the system-detected speed limit to address cases in which the system has incorrectly determined a speed limit, notably cases in which it has erroneously detected a lower speed limit than applicable. However, manually overriding the system-detected speed limit via the accelerator input (e.g. throttle pedal) remains an option for drivers to address these cases of misdetection. Given the previously mentioned propensity of drivers to misuse the capabilities to set vehicle speeds, and given their impact on the crash risk and severity, it is highly desirable from a road safety perspective to prohibit drivers from setting the speed at values greater than the system-detected speed limit, especially given the availability of the option to override manually.
5. The amendments proposed in this document therefore aim to prohibit drivers from setting the driver-set speed limit at a speed greater than the system-determined road speed limit.
6. In addition, to increase the safety of drivers making adjustments to the default offsets to system-determined speed limits, this operation should only be allowed when the vehicle is at standstill.
7. The amendment to paragraph 5.3.8.2.13. is merely editorial. (This paragraph corresponds to paragraph 5.3.8.2.12. in informal document GRVA-17-05).

¹ Monfort, S., et al. (2022). Speeding behavior while using adaptive cruise control and lane centering in free flow traffic. *Traffic Injury Prevention*.