

TASK FORCE VEHICLE SOUND #19

TFVS-19-05

Document from France:

✓ Soft horns

Reminder of GRBP (80th and 82th sessions)

ECE/TRANS/WP.29/GRBP/78 - Report of the Working Party on Noise and Tyres on its Eightieth Session (17–20 September 2024):

XII. Exchange of Views on the Future work of the Working Party on Noise and Tyres (agenda item 11)

Documentation: Informal document GRBP-80-14

*41. The Chair presented a revised list of priorities (GRBP-80-14) and invited all experts to provide comments with the aim to update the document accordingly. **As a new topic, the expert from France suggested development of a sound signal to announce the arrival of an electric public transport vehicle (e.g. bus) at a bus stop. Some experts supported this idea, while some others pointed out that such a signal could disturb people around. GRBP agreed to continue the discussion at the next session.***

Current situation

- ✓ On reflection, we cannot just target buses. This soft horn system could be extended to all M and N category vehicles.
- ✓ **Objective:** to reduce noise pollution (particularly in towns) and to be able to warn pedestrians, cyclists and others of the vehicle's arrival with the least possible discomfort.
- ✓ In France, the horn is prohibited in cities or outside of cities at night. It should **only be used in case of danger**.
- ✓ Through the work carried out in the GRBP working groups, we can see a strong demand for reducing transport noise.
- ✓ A number of measures are under consideration (speed reduction, speed cameras, traffic restrictions, etc.). In France, one of the recommended measures is **the addition of a soft audible signal for cars**.

Proposition

- ✓ UN Regulation No. 28 « Audible warning devices » for M and N categories: Add a paragraph to define the approval criteria for soft horns.
 - ⇒ OK to work on the subject in the Task Force VS.
- ✓ Some requirements
 - ⇒ The signal must be audible but not intrusive. It must provide warning without disturbing local residents.
 - ⇒ It must be distinctive to avoid confusion with other sounds and be identifiable as a vehicle (no music or birds sound for example).
 - ⇒ It must be operable by the driver.

Proposition

✓ Add a new definition:

I. Part I. Audible warning device, audible warning system, multiple audible warning system

2. Definitions

"Soft audible warning device" means **an optional** device consisting of one or several sound emission outlets that are excited simultaneously, emitting an acoustic signal which is intended to give audible warning of the presence of a vehicle **in a road traffic situation in an urban environment** and which is intentionally operated by a driver.

In comparison with the existing definition:

*2.1. "Audible warning device" means a device consisting of one or several sound emission outlets that are excited simultaneously, emitting an acoustic signal which is intended to give audible warning of the presence of a vehicle **in a dangerous road traffic situation** and which is intentionally operated by a driver;*

⇒ *Operated by a driver: in the case of autonomous vehicle ?*

Proposition

✓ Add maximum values:

6.3.7. Under the conditions set forth above, the sound-pressure level weighted in accordance with curve A shall not exceed the following values:

c) [75] dB(A) for soft audible warning device intended principally for vehicles of categories M and N with a power greater than 7 kW.

6.3.7.1. In addition, the sound-pressure level in the frequency band 1,800 to 3,550 Hz shall be greater than that of any component of a frequency above 3,550 Hz and in any event equal to or greater than:

c) [60] dB(A) for soft audible warning device intended principally for vehicles of categories M and N with a power greater than 7 kW.

⇒ *Do we need both levels ?*

⇒ *Could we have soft and classical horn in the same device ?*

Proposition

✓ Add new values:

II. Part II. Audible warning signals of motor vehicles

14.2. Specifications regarding sound levels

14.2.2. Measured under the conditions specified in paragraphs 14.3. the sound-pressure level of the audible warning signal tested shall be at least:

(c) Equal to [80] dB (A) and at most [100] dB (A) for the soft signals of vehicles of categories M and N of a power greater than 7 kW.

Proposition

✓ Other modifications:

In many paragraph, precise:

The audible warning device(s), audible warning system(s), multiple audible warning system(s) **and the soft audible warning device** shall...

Probably edit the appendices

Other questions:

No existing standard on soft audible warning

How to color the sound ? The idea is to have something common to all vehicles to identify a vehicle in urban noise (like a tram bell for example)

...

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