

Inconsistencies in the definitions of bus regulations

1. Background

Based on the Hungarian intervention, WP.29 asked GRSG to clear up the problem of the definition of bus categories in the bus regulations (R.36, R.52, R.107, R.107/Rev1), mainly in their titles and scopes. Hungary offered an informal document to GRSG to describe the problem and the possible solution.

2. The beginning

In the first versions of the bus regulations (R.36.00 R.52.00) there was only one figure, which divided the buses into two regulations, that was the number of the passengers, the passenger capacity. At that time the dividing line was 16 passengers:

- a) when the passenger capacity exceeded 16, it was called "large passenger vehicle" either in the title or in the scope of R.36.
- b) when the passenger capacity did not exceed 16, it was called "small capacity public service vehicle" either in the title or in the scope of R.52.

3. The meantime changes

- 3.1. Meantime the dividing line has been increased from 16 up to 22 passengers. R.52/Rev.1 (1995) and R.36/Rev.2 (1999) already refer to this new figure in their scope.
- 3.2. After some years a new dividing line has been introduced for categorization of buses, not instead of the original one, but parallel to that. This was based on the vehicle maximum mass, on the terms and definitions used in R.E. 3. Annex 7. para.2.2. and 2.3
 - a) "Category M₂: vehicles used for the carriage of passengers comprising more than eight seats in addition to the driver's seat and having a maximum mass not exceeding 5 tonnes" (small, light buses)
 - b) "Category M₃: vehicles used for carriage passengers, comprising more than eight seats in addition to the driver's seat and having a maximum mass exceeding 5 tonnes" (large, heavy buses)

This situation led to the confused title e.g. in R.52/Rev.2: "Uniform provisions concerning the approval of M₂ and M₃ – (large, heavy buses, see above) – small capacity vehicles"... This contradiction was pointed out by the Hungarian delegate on the WP.29 session.

4. General problems

- 4.1. The definitions in R.E. 3 are not clear. After the definitions of M₂ and M₃ in para.2.2. and 2.3 (see above) the para.2.4. says:

"Vehicles of category M₂ and M₃ belong to:

 - I. one or more of the three classes (Class I, Class II, Class III.) in accordance with Regulations 36. and 107.
 - II. one of the two classes (Class A, Class B) in accordance with Regulation 52.

Problems:

- R.E.3 does not contain any specification about the original dividing line of buses [passenger capacity 22 (16)] having large passenger vehicles and small capacity passenger vehicles
- Vehicle of category M_2 can not belong to the three classes used in R.36 and mainly not to R.107 (double deckers)
- R.E.3. should not refer to individual regulations, because its goal is to give general terms, definitions, specifications for the individual regulations

4.2. In the sub-paragraphs of 2.4. in R.E.3 there are two definitions:

"(2.4.1) Class I: Vehicle constructed with areas for standing passengers, to allow frequent passenger movement."

"(2.4.4) Class A: Vehicle designed to carry standing passengers, a vehicle of this class has seats and many have provisions for standing passengers."

Problems:

- is there any basic difference between these two definitions?
- the only difference could relate to the passenger capacity limit (22) but this is not mentioned in these definitions.
- the same situation may be observed in para.2.4.3. and 2.4.5.
- these definitions theoretically allow that one M_2 vehicle could belong in the same time to Class I. And Class A.

4.3. Now two dividing lines exist between the small and large buses:

- passenger capacity: 22
- maximum mass: 5 tonnes

Perhaps these lines are not too far from each other, but they do not cover completely each other, and in individual cases it may cause doubled categorization and unclear situation. The buses having more than 22 passenger capacity are mostly bigger in maximum mass than 5 tonnes (This assumption should be validated) But on the other hand, the contrary statement is not generally true (good examples: conference buses, sleeping coaches, coaches with extra high comfort and belonging equipments, chassis type heavy construction small buses, etc.)

4.4. Introducing the new classification into the bus regulations (M_2 and M_3 based on the maximum mass) nothing has been changed in the requirements, no new references to this new classification. That means, concerning the requirements and test methods there was no need for the doubled, parallel classification of buses. There is only one exception in R.107/Rev.1: in its Annex 8. (Requirement for technical devices facilitating access for passenger of reduced mobility) para. 3.8. (Stability of wheelchairs). The wheelchair restraint systems have different requirements related to M_2 or M_3 categories. But this differentiation should have been given on the basis of the passenger capacity limit (22) as well, technically it would not cause any difference.

4.5. The most ridiculous situation may be found in R.107.00. The title talks about "...double deck large passenger vehicles..." while in the scope and the definition of vehicle both M_2 and M_3 categories are referred. Who saw a double deck bus having a total mass less than 5 tonnes?

4.6. R.80 (strength of bus seats) – in its scope – refers to "seats in vehicles of categories M_2 and M_3 " specifying certain exceptions. But the title of this regulation refers to "...seats of large passenger vehicles..."

- 4.7. If must be underlined that the aim of this historical overview and list of problems is not to give a perfect, full picture, just to show the roots of the problems.

5. Proposal

- 5.1. Recognizing of the doubled, parallel categorization systems for buses and establishing that it is unnecessary, confusing, and in certain cases it could cause difficulties in approval, decision should be made.
- 5.2. Decision about the use of only one categorization system and deletion of the other one.
- 5.3. If the chosen system would be the old, original one (passenger capacity limit):
- delete M_2 and M_3 in every bus regulation (title, scope, definitions)
 - change in R.107.01., Annex 8. the categorization accordingly

In this case the categorization will be coherent in all bus regulations (requirements and test methods) but there will be no connection with R.E.3 (and/or Horizontal Regulation) and with other regulations related to buses, too.

- 5.4. If chosen the new system (M_2 and M_3 with the total mass limit):
- the old categorization should be deleted from all bus regulations (Title, scope, definition)
 - the old category limits should be replaced by the new one in the text of the regulations
 - this replacement cannot be done automatically, it has to be considered in every case whether it causes a problem or not.

This could result also a coherent solution for all bus regulations and it would be based on R.E.3 (and/or Horizontal Regulation), and may be in line with other regulations related to buses, too.

- 5.5. R.E.3 (and/or Horizontal Regulation) also must be changed:
- delete cross references
 - ensure full harmony between R.E.3. (and/or Horizontal Regulation) and the bus regulations.
 - Harmonize terms of masses ("Maximum mass" in R.E.3 and "Technically permissible maximum laden mass" in R.107/Rev.1.)
