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Global Forum for Road Traffic Safety

Group of Experts on Road Signs and Signals

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Item 2 (a) of the provisional agenda

Programme of Work: Taking Stock of National Legislation:

**Sign to communicate the need to crash through gates (barriers)
by a vehicle when trapped at a level crossing**

Sign to communicate the need to crash through gates (barriers) by a vehicle when trapped at a level crossing

Submitted by the Government of Italy

1. This document offers views and support for improving road safety at level crossing.
2. The document is meant to serve as a basis for identifying good practice and recommendations on policies to raise driver awareness of the need for sensible behavior at Level Crossing, with specific emphasis on the need for drivers to crash through the gates (barriers) in an emergency situation should they become trapped within a level

I. Introduction

1. Level crossing areas are not an ordinary road intersection, they are areas where two different transport modes, namely road and rail infrastructure, interact.
2. According to the 1968 Vienna Convention on Road Traffic, trains have priority at crossings, whilst road users and pedestrians must comply with road signs and signals in order to cross safely. This rule is intended to safeguard against any inappropriate behaviour which would endanger road users, train passengers and crew.
3. However, despite there being appropriate provisions in the Convention and in the national Traffic Codes¹, most accidents at level crossing are nevertheless due to non-compliance by road users (pedestrians, cyclists, bikers, vehicle's drivers) and caused by poor evaluation of risk, lack of attention, misunderstanding of road signs, as well as lack of knowledge of appropriate remedial action in case of vehicle entrapment between the LC gates.

II. Policy issues

4. Undoubtedly investment in infrastructure (bridges and underpasses) as well as deployment of digital technology could significantly improve safety at level crossing. Railways agencies, both worldwide and at EU level, are making significant progress in this direction with a view to minimizing the number of accidents.
5. The Italian national railway infrastructure manager is developing advanced solutions in its safety improvement program.
6. This program includes also the adoption of detection systems of road vehicles blocked the LC gates. Such systems have the possibility to interact with the Rail Traffic Management Systems and whenever possible can block or slow down approaching trains.
7. However, alongside these interventions, the goals of road user safety and safe mobility in the traffic environment can also be contributed to within the framework of sharing knowledge and closer coordination between the relevant institutional stakeholders.
8. In order to address this critical issue with appropriate measures at UNECE level, the Global Forum for Road Traffic Safety together with its Groups of Experts² decided to address additional safety measures which could usefully be implemented at level crossing.
9. To this end, in the policy paper³ "assessment of safety at level crossings", the Group of experts identified the need to cater for an emergency situation in which a driver may find his vehicle trapped in between level crossing barriers.
10. This specific topic has already been considered at international level, for example, by IRU and UIC -two worldwide road and rail associations- , during "Operation Lifesaver Estonia", when they joined forces to help raise awareness about level crossing safety amongst transport professional.

¹ https://ec.europa.eu/transport/road_safety/topics/infrastructure/level_crossing_en

² Group of Experts for improving road safety at level Crossing; Group of Experts on Road Signs and Signals;

³ Assessment of safety at level crossings in UNECE member countries and other selected countries and strategic framework for improving safety at level crossings "ECE/TRANS/WP1/2017/4"

11. At domestic level, on several occasions safety guidelines have been issued with a view to reminding drivers, and more in particular professional drivers of the need to pay particular attention, and to be fully alert, whenever using a level crossing.⁴
12. Preventive publicity campaigns targeted at transport companies and convoy drivers have proved to be effective⁵ in respect of safety at level crossing.
13. In particular of serving as a reminder of the importance of traffic signs at level crossing, of the risks and dangers inherent in any infringements of the rules and of the sanctions and penalties arising from any non-compliance with domestic traffic code.
14. However, further action is needed, in addition to specific training and educational measures, in order to highlight the importance of relevant measures applicable to rule emergency situation where a vehicle becomes trapped between the barriers.
15. In fact, it is evident that the lack of appropriate knowledge of the remedial action in case of vehicle entrapment between the LC gates, would lead to catastrophic consequences if the railway tracks are not cleared in the shortest time possible.
16. To this end, the identification of a sign to communicate to a vehicle driver the need to crash through the gates (barriers) when trapped at a level crossing is of paramount importance, together with awareness raising campaign and appropriate training policies for drivers, more specifically for the professional drivers.
17. Therefore, these signs and panels should quickly to remember to the users - in a highly critical situation - an awareness of the correct behaviour already acquired during their training and updating
18. Consequently this paper would like to prioritize the discussion on road safety policies related to Level Crossing interaction, and on the appropriate signs and panels to be used at level crossing.
19. At the same time, it is clear the need for a generalized diffusion of barriers particularly designed for being knocked down with a minimal force applied.

In relation to the outcome as per agenda item 2 a)

20. In this framework, Italy supports the endeavours of the Group of experts and would like to contribute in the discussion aiming to identify the appropriate sign capable of being understood at glance –either with or without an additional panel with inscription- which clearly indicates the necessary remedial action to be taken by any drivers who may become trapped in between the barriers.
21. The show – cases reported below is included for the purpose of facilitating discussion during the 15th Session and it is intended to provide additional helpful information for consideration by the Group of Experts when framing appropriate recommendations in line with the standing intent and objectives of the UNECE and EU.
22. In due course eventual data relating to the outcome of action taken at dangerous locations (i.e. Level Crossings with full barriers and high frequency of vehicle entrapment) could facilitate agreement with other contracting parties, on the most apt and visually effective pictogram which best identifies to trapped drivers the need to drive through the barriers in order to clear the railway tracks.

⁴ <http://www.ilcad.org/LC-Safety-Tips.html>

⁵ France, Art 12, Regulation 4th May 2006, then amended.

12th July 2011, Vicofertile

- Regional train collision with truck trapped between closed barriers
- Identified cause: Crossing not completed in due time
- The truck driver, coming from a route parallel to the railroad, had not been alerted of the presence of the LC by road signs
- Road signs would have even had to forbid this maneuver to heavy vehicles in relation to the intersection geometry (curve negotiation) and the size / time to go over level crossing.
- The truck driver abandoned the vehicle on the railroad, trapped between the barriers, not having received a good training on how to behave in case of entrapment between the barriers
- 26 minor injuries, 2 serious injuries

21th September 2012, Bari

- Solo loco collision with a bus trapped between the closed barriers
- Level Crossing signals and light not visible, according to the bus driver
- The bus driver abandoned the vehicle on the railroad, trapped between the barriers, since he did not have knowledge or in- situ indication on how to behave in case of entrapment between the barriers
- Serious injuries, damages € 500,000.00

24th September 2012, Cisternino

- High speed train (Pendolino) collision with a truck stuck between the closed level crossing barriers
- Following investigation if there was a deliberate violation (aware passage with red light signal) or it was a distraction / accidental event
- The truck driver abandoned the vehicle on the railroad, trapped between the barriers, not knowing what to do or how to behave in case of entrapment between the barriers
- 20 minor injuries
- 1 fatality (train driver)

30th June 2015, Borore

- LC critical near-miss collision of regional train with bus
- Regional train 3950, approaching Borore station, stops in emergency due to a bus in the area of the LC km 140+487 of the line Macomer - Cagliari.
- The bus is trapped within the barriers and the barriers are closed
- The train stops 50 m before the bus
