

The Swedish Transport Agency

SHK's assessment of the reply from the Swedish Transport Agency

The 3 December 2015 the Swedish Accident Investigation Authority (Statens haverikommission – SHK) published a final report (RO 2015:02) concerning an accident with a bus on the national highway 27 south of Tranemo. In the report SHK issued two safety recommendations to the Swedish Transport Agency (Transportstyrelsen).

The Swedish Transport Agency has replied to the safety recommendations and described the measures taken.

Regarding the first recommendation (RO 2015:02 R1), SHK concluded in the report that the high degree of passengers using seat belts in the bus probably contributed to limit the number of people seriously injured. However, the upper attachment point for the bus's three-point belts were placed between the seats, which meant that the upper belt part did not prevent the passengers who sat in the outer row, and thus ended up at the bottom when the bus overturned, from sliding out of the belt with the upper part of the body. SHK considers that it is likely that some injuries could have been avoided if the upper belt attachment instead had been close to the windows. Against this background the Transport Agency was recommended, within the framework of its international work, to encourage that the requirements for belt attachment for passenger seats in buses develop in order to reduce the risk to passengers sitting in outer rows falling out of the upper part of the belt and out of the bus if it tips over or flips.

The Transport Agency states in its reply that there is no mandatory requirement for three-point belts in buses and that the authority does not currently intend to take the initiative for such demands.

As SHK perceive the rules, there are certain requirements for three-point belts in buses, e.g. in the front seats on the upper deck of a double deck vehicle. In addition, three-point belts may be installed even in situations where there are only required two-point belts. It would then be unfortunate if the belt anchorages are not placed in an optimal way.

Rules on vehicle design are to a large extent international. Issues of safety belts in buses are regulated, e.g. in regulations on provisions concerning the approval of

vehicles decided by the Economic Commission for Europe of the United Nations (UNECE). There are limited opportunities for Sweden to unilaterally require that the international regulatory work changes. That is also why SHK limited the recommendation to state that the Transport Agency *should work* for a change. Furthermore, the same question has been raised in a couple of our Nordic neighbouring countries. The response of the Transport Agency must be perceived as stating that when it will be time to revise the rules on seat belt requirements in buses the Transport Agency will put forward the views on the placement of the upper attachment point for three-point belts.

SHK accepts the Transport Agency's position and considers the recommendation to be taken care of (closed – adequate response).

Regarding the second recommendation (RO 2015:02 R2), SHK has in the report commented on the bus's lateral stability and the way in which stability is tested. SHK understood that the tests were carried out with empty buses and therefore recommended the Transport Agency to promote the development of the test procedure concerning lateral stability for buses, so that various load conditions are taken into account in order to make the testing process more accurate.

The Transport Agency has in its reply explained the way in which the lateral stability tests are carried out and that this should be done at a loading ratio which represents the bus's passenger and cargo capacity. Against this background, there is no need for SHK to maintain its safety recommendation, which therefore is withdrawn (closed – withdrawn).

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