



Presentation of main findings in report from:
**Norwegian Safety Investigation Authority (NSIA) related
to a high-speed frontal road-collision (GRSP-69-02)**

UNECE/GRSP-69/May 2021

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REPORT

Road 2020/07



*REPORT ON A HEAD-ON COLLISION
BETWEEN A PASSENGER CAR AND A
VAN ON THE E39 AT AUSTEFJORDEN,
VOLD, MØRE OG ROMSDAL ON
20 OCTOBER 2019*

The drivers and front seat passengers in both vehicles sustained only minor injuries. In the rear seat of the estate car, one person was killed instantly, one died later and a third person suffered life-threatening injuries.



*Figure 2: Final positions - northbound van and southbound passenger car photographed at 11:48.
Photo: The police*

External deformations



Passenger car

External deformations



Van

Interior of the passenger compartment



*Figure 5: External deformations on the van and the interior of the passenger compartment.
Illustration/photo: NSIA*

Focus on rear seat back with integrated belt-system

Approx. 1% of fatalities are related to the centre-position last 5 years.

Passenger often more injured in the rear seats.

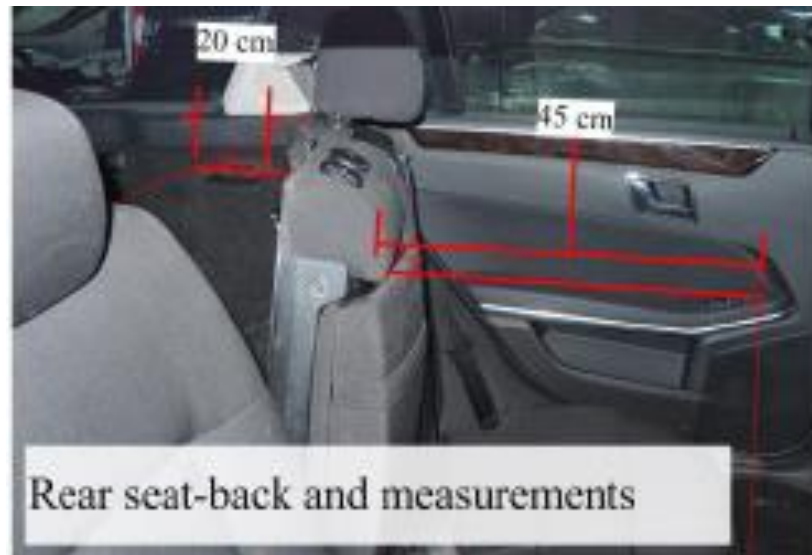


Figure 8: Luggage that was placed in the estate car's boot. Photo: NSIA

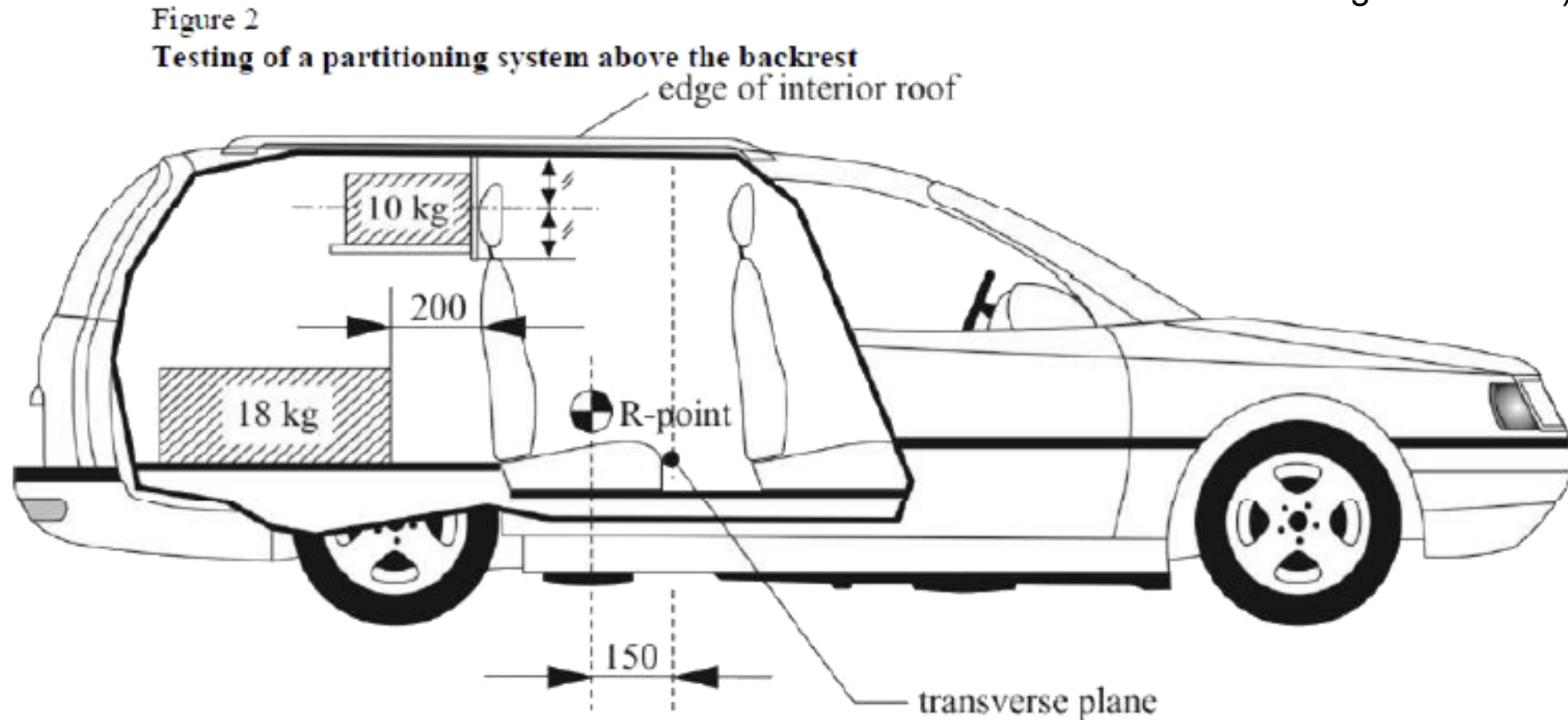


Figure 19: Test of seat-back with 2 x 18 kg luggage and 10 kg against the head restraint in a sled test at 50 km/h. The minimum requirement for forward deformation of the seat-back is described below. Source: UN-ECE R17

Discussion: What can be improved?

- Increase the test-mass (90 kg luggage proposed in 2003 by ANEC)
- Reduce allowed post-test deformation (100 mm/150mm)
- Add crash-test dummy(ies) in the seat during dynamic-test (without measurement)

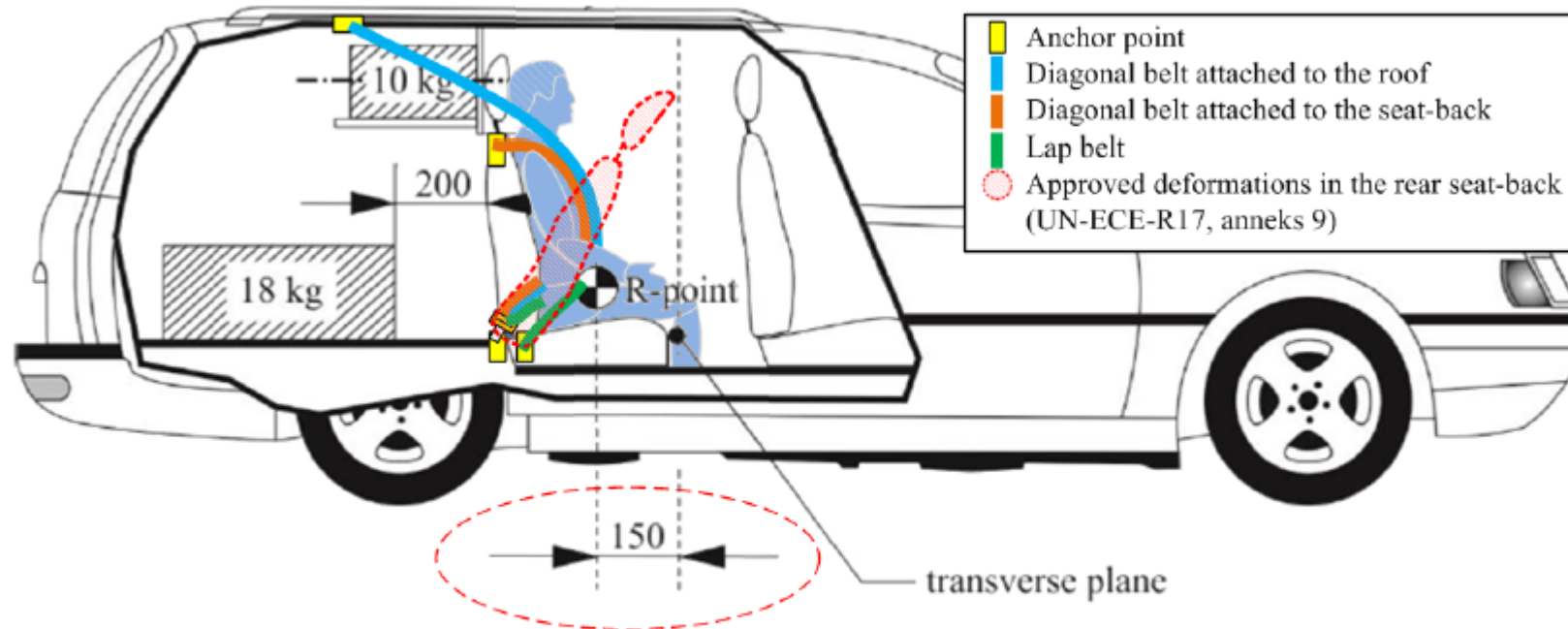


Figure 25: Strength requirements for rear seat-backs - showing middle rear passenger and seat belts with alternative shoulder belt anchorages. (Note: R-point is determined by the car manufacturer and will vary). Illustration: NSIA