Children in Buses and Coaches
Clepa Comments on Informal Document GRSG-121-02
Status of STCBC IWG tests investigations

Discussed at the 68th GRSP Session – December 2020 - Informal document GRSP-68-03

- Frontal Sled Tests were carried out with various dummy sizes using R80 test environment

- Important to investigate a 3-point belt system
Comments to Informal GRSP-121-02

- Child Restraint Systems (CRS) that are approved according to UN-R129 would not seem to be compatible with Bus interior regulation according to UN-R 107.

  - Larger seat spacing: OICA analysis that was presented at the last IWG STCBC did include installation of the largest forward facing CRS fixture ISO F3 and Rear F ISO Fixture R2. Space between seats would increase for Classes I, A, B and II, III. The loss of space will be function of how many seats in buses and coaches will be required to receive both ISOP F3 and ISO R2 fixture.
  - The fixture by OICA ISO/F3 is relevant for “Specific to Vehicle” approved ECRSs only. It would be interesting to see the analysis expanded, to use the fixture mandated in R129 for the assessment of i-size and Universal ECRSs F2X.
  - It would be interesting to see the analysis expanded with the assessment using Reg.129 approved universal ECRSs (i.e. Belted ECRS).

- Permitted intrusion above a seating position
  - We understand that a contact has been identified between the CRS fixture (equipped with ISOFIX) and the intrusion point above the bus/coach seat
  - Installation of belted only CRS might provide more flexibility with regards to this contact

- That statistically the injury risk is with children above 9 years old. It is unlikely therefore that the use of a CRS would have a positive impact on this age group.
  - Transport of children in buses and coaches of different ages can’t be excluded. Providing adequate restraint addressing ejection and potential occupant contacts with the interior is important.
• Requirements for the use of multiple CRS’s in buses would lead to a significant reduction of the number of passenger seats in the vehicle.
  
  • *The reduction of the passenger seats will depend upon how many seats will be dedicated to which child population size.*

• Given the size of current CRS’s used in passenger cars, it may cause practical issues for the movement of passengers inside the vehicle.
  
  • *UN R107 Gangway dimensions and moving a CRS within the bus Class B: There are ways to move the CRS within the bus for example above the bus seat cushion.*

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**Next Steps That Were Considered by the IWG STCBC**

• *ISO envelops compatibility*

• *Physical trials in bus/coach environment*

• *Additional dynamic tests using 3-point belt system*