

**Draft Minutes from 4rd meeting of the Informal Group on
Safer Transport of Children in Buses and Coaches**

Date:	Start	October 29 th	14:00
	End	October 29 th	16:30

Minutes

1. Welcome & meeting arrangements

Marta opened the meeting and welcomed everyone

2. Adoption of the agenda

Review of the agenda by Marta

The agenda was adopted.

3. Minutes review from last meeting

The minutes were not reviewed as the actions from the last meeting are included in today's meeting agenda.

4. Actions from last meeting

a. Clarification types and classes of busses & coaches

Finalize the classification table with seat belt requirements (Victor) - STCBC-04-02

Document presented by Farid, as Victor was not able to attend the meeting. **Marta concluded that in our work we should consider both types of seat belts, 2 and 3 point-belts.**

Market overview: Investigate the seat belt installation in all classes except for Class B and III (Anika)

Anika, was not able to attend the meeting, the document will be presented next meeting.

Michael Becker suggested to invite the IIU association (GRSG members) to participate in the IWG.

Action: To invite IIU to the IWG (Michael Becker)

b. Establishing a summary matrix combining seat belt type as a function of vehicle category/testing

Action: Provide dimensions according to R107 for Korea (Jongsoon) and Japan (Yoshinori San) – **Moved to next meeting**

-Update from Japan (Yoshinori Tanaka San) – Oral presentation

Distance back of front seat to rear seat front edge 200 mm (for leg space).

Full width cushion seat 380 mm

Seat back length dimension 400 mm

Action: Document to be submitted for next meeting (Yoshinori San)

Question: are CRS required in Japan in B or C vehicles: Answer No

Question Michael Becker: is there any country requiring use of CRS ? Answer from participants
None

Ronald Vroman: There are requirements in Latin requirements for school buses. Example Uruguay

Action : Presentation more details about the regulation in Uruguay (Gonzalo Casas)

Action : Establish an overview of how children are transported in buses and coaches in various countries according to the use of those vehicles ‘school buses , buses for holiday transportation. Need to separate the countries which have school buses and the ones which do not have specific vehicles for this purpose (Marta Angles).

Action: Michael will forward German requirements to Marta

- c. Requirements applied in Korea (Jongsoon) presentation – STCBC 02-06

Legal requirements for transporting children, general overview

- ~~d. List of key elements for collecting accident data for future accident investigation (Farid Bendjellal, Marta Angles, Philippe Lesire)~~

According to last meeting decision this task is cancelled as no progress was achieved.

- e. Presentation on ISOFIX (Michael Becker)

Action:

- **Expand the analysis to top and front views (Michael Becker) – moved to next meeting**
- Child Restraint Systems (CRS) in Buses & Coaches : Possible influence on number of seating places (Michael Becker) – CAD study - STCBC-04-03

For a 55 seats coach , using ISO Class A envelop , the 680 mm seat to seat distance will increase to 770 mm, resulting in a loss of 4 seats.

For a 65 seats coach, the increase to 770 mm distance will result in a loss 6 seats.

Questions raised by Michael:

-Number of places in the vehicle to be covered for child restraints and type of testing gauge to be used (CRS envelop).

Salim: impact on class B vehicles would higher

Action

To check the impact in smaller buses with < 22 seating positions. (Salim)

Do similar analysis combining CRSs and Support Leg volumes (Sebastian, Michael, Rudolf)

Farid suggestion: to envisage a workshop realized by organizations in their facilities as with the COVID there will no opportunity to organize an in-person workshop.

5. Definition of key elements of the regulation

- a. Key test configurations: Frontal Impact, Rollover

Research testing: Marta STCBC-04-05

Integral CRSs

Tests with 2 p belt - no head contact but large occupant rotation, there is a question about what injury could be induced with such rotation and by a knife-cutting effect from the lab-belt.

Timm question; there is abdominal pressure but low with 2 points belt , what is the point to have the restraint

Farid and Marta : the large rotation could lead to risk of ejection in a real crash where there might be a vertical component

Tests with CRSs: head contact for both infant carrier and the forward facing seats but injury criteria below R129 limits.

Tests with non-integral seats

Head contact with Q10 and Q6 in tests with and without booster, except for the Q6 in no-CRS condition.

Rudolf confirmed from his previous testing experience that the R80 pulse is appropriate for testing the CRSs.

Action:

Check head displacement in all tests (Marta)

Upload the videos on the UN STCBC website (Farid)

To provide old tests with CRS and buses with 2-point belts (Rudolf)

Analyze tests results for further investigation. (All)

- b. Type of Pulse M2 -

Comparison of M2 & M3 pulses (Salim) STCBC 04-04-Rev1

Recommendation to use the R-80 pulse, as the severity of the impact is almost the same than the UN R-100 pulse, and the bus/coach seats are designed to be tested according to UN R80.

- 6. Confirmation of tasks and responsibilities

Actions for next meeting were confirmed by the IWG.

- 7. AOB, next meeting

28th January 2021; 10:00-12:30 pm

Attendees

Michael Becker, Rudolf Gerlach, Gonzalo Casas, Marianne Leclair, Costandinos Visvikis, Jongsoon Lim, Harim Sarvin, Tim Janssen, Sebastian Weber, Ronald Vroman, Pascale Reyntjens, Salim Abdennadher, Yoshinori Tanaka, N Sugimoto, Sahin Hasan, Anais Garo, Victor Calzadilla, Luis Martinez, Marta Angles , Farid Bendjellal