

2021-09-07

Submitted by the experts from Canada, France, Germany, Japan, Netherlands, Spain and Sweden

This formal document is the result of the discussion in the ad hoc group formed in the GRSP where experts representing both contracting parties and industries have participated.

Terms of reference

For informal working group on sex and size neutral crash safety

A Introduction

At the 68th and 69th session of the GRSP Sweden raised the question of how the regulation regarding crash safety can be developed to ensure safety for both females and males as well as for occupants of different sizes. Since the 1960s many studies based on real world accident data have shown that injury outcome in the event of a crash can differ related to both sex and size of the occupant. There are also studies that offer various explanations as to why these differences occur.

To address these concerns the proposal is to establish an informal working group with the objective to analyse the current situation, collect all necessary data (accident statistics, various studies, and other) and amend, where needed, regulations under the framework of the 1958 agreement. These considerations may also need to be reviewed under the framework of the 1998 Agreement, based on a GRSP and WP.29/AC.3 decision.

The Sustainable Development Goals are a call for action by all countries to promote prosperity while protecting the planet. According to the goals and targets of improved road safety it is important to make sure the legislation duly takes both sex and size into consideration. This work will be based in following Sustainable Development Goals:

3, Good health and well-being, supports cooperation for safer transport.

Target 3.6 – Improving road safety.

5, Gender equality, - promotes women's economic empowerment and mainstreaming of gender equality in all its activities.

Target 5.C Adopt and strengthen policies and enforceable legislation for gender equality.

9, Industry, innovation and infrastructure – support countries to ensure that industry, innovation and infrastructure provide robust foundation for sustainable development.

Target 9.6- Promoting gender responsive standards

B Objective of the informal working group

The objective for the informal working group is to analyze the following ECE- regulations under the 1958 agreement:

ECE R 16, safety belt/restraint system test

ECE R17, strength of seats

ECE 94 and 137 frontal test

ECE R95 and 135 side impact tests

The informal working group might also wish to review existing passive safety dummies and their capability to reflect the different injury patterns from field data analysis. As well as investigate whether the current safety related regulations are sufficiently flexible to allow the development of advanced adaptive systems where higher safety for different occupants can be achieved.

This will be done in three phases in the following subtasks;

Phase 1

- a. Review available accident data and statistics to investigate the magnitude of the issue, i.e.:
 - Are there marked differences as to the injury patterns and severity depending on different sex, sizes/masses?
 - What are the reasons for these differences, other than vehicle size and mass?

This work will include gathering, assessing and reviewing existing relevant studies and identifying areas where additional research may be needed

- b. Review how regulations and standards relate to different sexes and sizes based on the following four questions:

Are females and males equally represented?

Are people of different sizes represented?

Do currently established definitions and dimensions promote car crash system designs that benefit all vehicle occupants equally?

Can the test protocols be (mis)used to optimise the crash performance for those specific conditions and used test dummies only ?!

In the work with definitions and standards invite WP.1, Global forum for road traffic safety and WP.6 – Working party on regulatory cooperation and standardization policies to collaborate. This work will include mapping of the regulations and standards that are connected to these WP:s.

- c. Conduct identified necessary research based on the data gaps identified as needed.
- d. Analyze the tests in the regulations to determine if greater diversity in terms of crashes and occupant representation is needed.

Phase 2.

- e. Reach an understanding into the possibilities of virtual crash testing systems to enhance crash safety for car occupants of different sex and size. We also have the intention to learn more about the possibilities of virtual crash testing systems when it comes to vulnerable road users.
- f. Investigate whether current safety related regulations are sufficiently flexible to allow the development of advanced adaptive systems where higher safety for different occupants can be achieved.

Phase 3.

- g. Propose changes to current regulations and review further activities in GRSP, if the result from the first two phases show there is a need.**

C Operating principles

1. The informal working group on developing equal safety is open to all Contracting Parties and Non-Governmental Organisations to the 1958 and 1998 agreements.
2. A Chairman, a Vice Chairman and a Secretary will manage the informal group.
3. The working language of the informal working group will be English.
4. An agenda and related documents shall be made available on the website of WP.29 by the secretary of the group in advance of all scheduled meetings.
5. All documents and/or proposals shall be submitted to the Secretary of the group in a suitable electronic format in advance of the meetings. The group may postpone discussion on any item or proposal which has not been circulated 5 working days in advance of the scheduled meeting.
6. The Secretary of the group will distribute the meeting minutes to the informal group members within 15 working days after the meeting of the group.
7. Decisions and proposals of the group shall be reached by consensus within the participating contracting parties. When consensus cannot be reached, the Chairman of the group shall present the different points of view to GRSP. The Chairman may seek guidance from GRSP as appropriate.
8. Sessions shall be held in agreement with the majority of the participants after the group has been established in a constitutional meeting. Sessions may be in person or virtual using web-based technology.
9. A provisional agenda shall be drawn up by the Secretariat in accordance with the participants of the group. The first item upon the provisional agenda for each session shall be the adoption of the agenda.
10. The second item on the provisional agenda will be discussion, matters arising and adoption of the minutes of the previous session.
11. The Chair of the group or his/her representative will report back to GRSP on the progress of work on a regular basis

D Work plan and time schedule

- Task a) - Review available accident data: Report to GRSP in December 2022
- Task b) - Investigate existing regulations with respect to sex/size neutrality: Report to GRSP in December 2022

- Task c) - Conduct identified necessary research based on the data gaps identified as needed: report to GRSP in May 2023
- Task d) - Analyze the tests in the regulations to determine if greater diversity in terms of crashes and occupant representation is needed: Report to GRSP in May 2023
- Task e-f) - Investigate possibility of virtual crash testing systems: report to GRSP in December 2023 .

Based on outcome of Tasks a) to e), decision by GRSP (December 2023) and WP.29/AC.3 (March 2024) if modifications to existing UN Regulations (and GTRs) are needed - content and new timeline to be defined then regarding to task g and f.