

<b>Minutes of the 5<sup>th</sup> meeting of the Task Force Bumper Test Area (TF-BTA) within the IG GTR9-PH2</b>	
Venue	Offices of the European Commission, BREYDEL-Building, Room 05/B, Avenue d'Auderghem / Oudergemsesteenweg 45, 1049 Brussels, Belgium
Date	30 Jan. 2014, 10:00 a.m. - 16:30 p.m.
<b>Status: Draft</b>	

**1. Welcome**  
(Chair)

Mr. Broertjes welcomed all attendees at the European Commission in Brussels. He acted as chair of the meeting, Mr. Kinsky (OICA/GM Europe) provided the secretariat.

Also, Mr. Broertjes noted that Mr. Carroll, who acted as project leader for the Commission's activities on the subject at TRL, was not available since he and his wife recently had their baby. The Task Force was pleased about this news and wished Mr. Carroll and his family all the best! Also, the Task Force welcomed Mr. Hynd who replaced Mr. Carroll for this meeting.

**2. Roll call of participants**

The attendance list is attached as a scan at the end of these minutes.

In addition to the attendees signed in, Messrs. S. Bilkhu (the Alliance/Fiat Chrysler), I. Imaizumi and Y. Takahashi (both JAMA/Honda), Dr. A. Konosu (JARI), P. Martin and J. Stammen (both NHTSA) attended the meeting via Web conference.

**3. Adoption of the agenda**  
(all)  
(this document)

The agenda was adopted without changes.

In addition, some attendees offered to present detailed information. It was agreed that these presentations would be given in the course of the meeting when the respective agenda items were discussed.

**4. Review of the draft minutes of the 4<sup>th</sup> Meeting in Paris**  
(all)  
(document TF-BTA-4-02)

The secretary noted that just some comments were received for the minutes of the last meeting. These comments were reviewed and again slightly modified. The finally approved

version of the minutes has now been placed on the website of the Task Force as document TF-BTA-4-02r1.

#### **5. Update on the EC study and Terms of Reference**

(TRL, European Commission)

(Document GTR9-9-17 had been shown as a preliminary version of the final report during the 9<sup>th</sup> meeting of the IG GTR9-PH2; new document expected.)

Mr. Hardy presented the latest results of the tests done at TRL (document TF-BTA-5-03). He noted that a preliminary version of the activities had already been presented to the attendees of the last gtr9 informal group meeting in December 2013 in Geneva.

Mr. Hardy explained the intention of the tests was to assess the protection level across the whole front of the vehicle and to investigate whether a new procedure could provide better protection. Also, some concerns existed with the behavior of the impactor and that these concerns were also considered in TRL's activities.

As already explained in one of the earlier presentations of TRL, three different vehicles representing some of the most sold vehicles in Europe were used for the test series. On request of Mr. Roth it was confirmed that all three vehicles were designed to meet pedestrian safety requirements in Europe but had not been designed to meet the FlexPLI requirements. Mr. Hardy explained that several different tests were conducted. The results of these tests were presented and Mr. Hardy concluded that, according to the outcome of the test series, TRL sees four options to be possible for a future extension of the bumper test area:

1. Do nothing,
2. Use the solution that already is used by Euro NCAP,
3. Extend to bumper corners to a 45° angle (with or without 66 mm offset from the bumper corner, representing half a diameter of the impactor),
4. Remove all bumper corner limits and test across the whole width of the vehicle.

Ms. Sipido wondered how many tests were conducted to draw the conclusions from and Mr. Hardy confirmed that one test per test configuration per vehicle, resulting in 15 tests in total, were conducted. Mr. Broertjes added that also Euro NCAP results were reviewed and that these results also show a need to widen the test area. Also, in certification testing just one test per impact location is done to assess the vehicle.

Discussion came up on how representative the test results are and whether or not the conclusions should be drawn as proposed by TRL and whether the potential benefit can be assessed. Mr. Buenger explained that the benefit analyses already shown seem to offer too much variety. Mr. Schmitt added that it needs to be considered that the average age of (at least the German) vehicle fleet is 9 years and therefore the benefit analyses need also to

consider this. However, it was proposed to await the presentation of TRL on the cost benefit analysis before further discussion on this.

Before going further Mr. Knotz mentioned that also the influence of upcoming changes on the upper leg to bumper test for high bumper vehicles need to be considered. The current test equipment does not allow the test to be conducted against an angular surface.

Mr. Takagi noted that a new test procedure needs to be representative for the real world accident scenario where no rotation of the vehicle occurs. Mr. Broertjes however clarified that a permissible vehicle rotation would just be proposed to address the concerns with the impactor rotation observed in traditional testing and to have a test procedure that can be conducted in a proper way.

Mr. Buenger and Ms. Sipido explained that the decrease of the width of the bumper test area assumed by TRL may be a theoretical approach. Older vehicles with a wider test area provided less protection than newer cars and the next generations of vehicles may again have wider test areas. Mr. Schmitt added that a further decrease of the test areas is unlikely since structural parts cannot be removed due to consumer testing requirements. Mr. Broertjes pointed out that these are valuable comments but that not all manufacturers design their vehicles according to consumer metric requirements and that at some newer vehicles the test areas are already extremely small. Therefore, the Commission sees a need to act on this as it had already been shown in document TF-BTA-3-06r1 of TRL.

Mr. Gehring wondered why the test results for the oblique testing were much lower and Mr. Knotz noted that the impact speed in these cases was lowered. However, Mr. Gehring noted that he also sees the problem that other points than actually aimed for are finally hit and assessed since structural parts are covered by the bumper fascia.

Mr. Hynd introduced TRL's assessment of the cost benefit issue (document TF-BTA-5-04). He explained that the assessment is based on OTS and GIDAS injury data and the TRL used a conservative as well as a more optimistic approach for their calculations. He concluded that finally between 71 and 473 serious injuries per annum could be prevented in the EU and that this would result in saving 15 to 100 million euro per year.

When Mr. Hynd presented the accident figures Mr. Roth and Mr. Buenger explained that the assessment for the vehicles may not be appropriate since the vehicles in the periods looked at by TRL had not yet been designed to meet pedestrian safety criteria. At that time, no legal requirements existed and designing vehicles towards compliance with consumer metric requirements had more or less just started. However, vehicles may have had a certain performance but this more or less was just by accident. Mr. Schmitt added that, again, the average age of the vehicles in the fleet needs to be considered. Also, Mr. Buenger pointed out that there are several vehicles on the market where the test areas are much wider and that such vehicles also need to be appropriately considered in an

assessment of the benefits.

Mr. Hynd summarized that the OTS and GIDAS data are broadly representative for EU accidents. In addition, improvements can only be expected for the reduction of serious injuries to slight injuries.

Mr. Zander asked why it was impossible to have slight injuries converted into non-injuries and Mr. Hynd responded that such cases may indeed occur but are assessed to be very unlikely in a collision of a pedestrian with a vehicle. In any case, a pedestrian would be expected to have at least slight injuries. On request of Mr. Zander Mr. Hynd also noted that fatal leg injuries may occur but are usually quite unlikely.

Mr. Buenger wondered whether the estimation of the accident numbers may not be representative: Especially the number of less severe injuries could be underreported. Mr. Hynd confirmed that for the UK the accident figures are only those taken from police reports; hospitals of course have different data.

Also, Mr. Buenger noted that outboard areas were shown to not have issues with the criteria, only in a small extension to today's test area testing seems to make sense. So, the benefit again will be smaller. In addition, as already mentioned there are vehicles on the market that will not have a widened test area due to their less arrow-shaped or rounded styling. Mr. Roth added that therefore in many cases a more detailed review of the accident data could be beneficial. As Mr. Hynd explained, TRL unfortunately has no access to the detailed data. Mr. Roth noted that this could be done via the German colleagues but that it needs certain efforts. Mr. Zander promised to double-check with BAST what support could be provided here.

After some further discussion Mr. Hynd promised to take all the comments back to TRL to check how they can be considered appropriately.

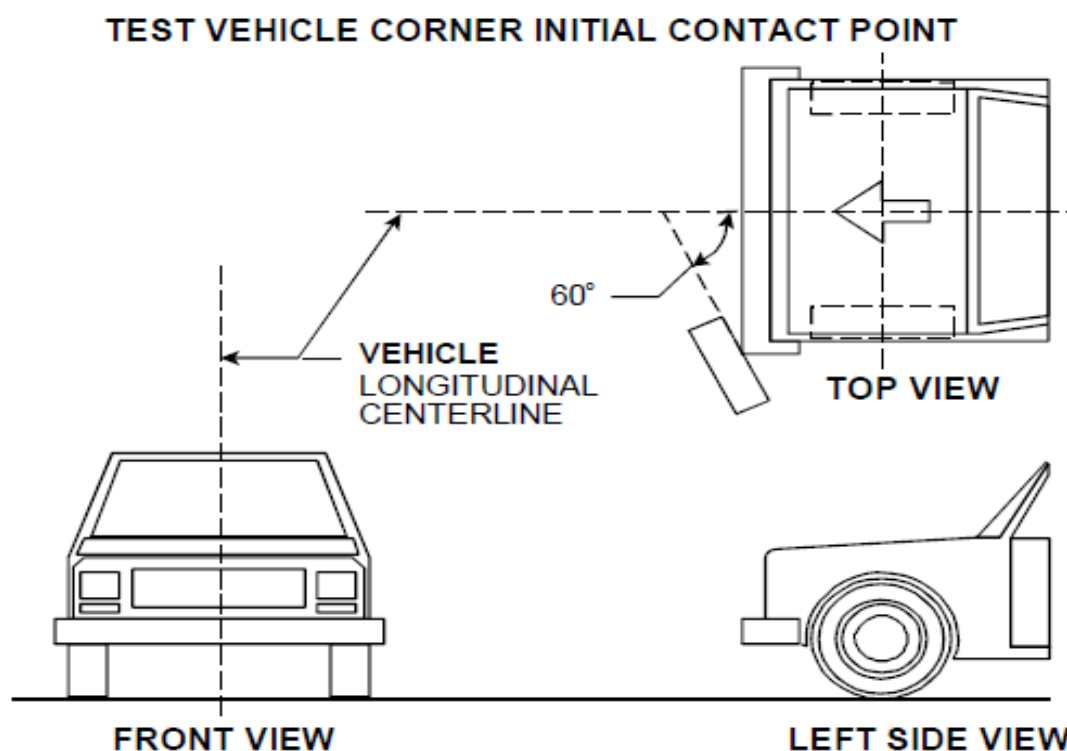
On behalf of manufacturers Mr. Schmitt presented their position (document TF-BTA-5-05). He noted that several concerns exist regarding the approach of TRL, some of these concerns had already been mentioned earlier in the meeting. He concluded that, for the time being, Industry could imagine a solution either defining the bumper corners only in the height of the bumper structure or using the same approach as Euro NCAP (the wider of the two areas created by either the bumper corners or by the bumper structure defines the bumper corners). Mr. Schmitt added that, however, future requirements e.g. for small overlap crash testing should also be considered for a gtr amendment.

Discussion came up on how the small overlap testing could be considered. Mr. Buenger explained that the pedestrian's injuries usually are caused by the bumper structure and not by the fascia styling and that therefore this is the area to be addressed. Mr. Hardy noted that the structure then needs to be carefully defined to avoid that hard parts are excluded

from testing. Discussion then came up on what could be structure. For e.g. headlamps it was noted that they are not considered structural parts according to the opinion of manufacturers but Mr. Broertjes disagreed that they should be excluded from testing, as they may form dangerous structures (in themselves) and should then be tested.

Some intense discussion came up on possible pros and cons of alternative proposals provided by a number of the manufacturers. In particular, the US bumper standard was discussed as a possible option for defining the bumper corners. Finally, Mr. Broertjes concluded that the Commission sees the potential benefits of the proposal having kind of a plank or board with the dimensions of the US impactor moved in an area between which its center varies from about 16 to 20 inches in height. However, he noted also still seeing potential issues especially with the increasing concerns on upcoming requirements on small overlap testing that may lead to changes in vehicle front designs in the near future. This may require structural parts in areas that today are outside of the bumper width. Mr. Broertjes pointed out that he prefers to avoid a situation where the requirements will need to be reviewed and revised again soon and invited manufacturers to report about the effects of the small overlap requirements in the US Insurance Institute for Highway Safety (IIHS) and possible feasibility issues, if any.

**Note of the chair: The following information is added to the meeting minutes for clarification of the procedure discussed in the meeting:**



Height of the impact line from the test surface must be adjustable over the range of 15.5" to 20.5" (394 mm to 521 mm). Height of impactor = 4.5", width of impactor = 24" - (2x4" radius) = 16" (114 mm x 406 mm).

**6. Discussion on a new test procedure****6.1. Additional proposals for an update of the bumper test area, if any**  
(all)

It was noted that it may be too early to discuss this.

**6.2. Definition of the new tests area details**  
(all)

It was noted that it may be too early to discuss this.

**6.3. Preferably: decision on and drafting of the test procedure for supply to UNECE GRSP**  
(European Commission, all)

It was noted that it may be too early to discuss this.

However, Mr. Broertjes mentioned that OICA members had volunteered to help him preparing a wording that represents the latest status of discussion achieved during this meeting. Since this group is not an official informal group of the GRSP he will assess the resulting document and may hand it in on behalf of the European Commission for discussion in the next sessions of GRSP (19 – 23 May 2014 in Geneva).

**7. Review of action list, if needed**  
(Secretary)**BASt:**

Double-check whether it is possible to do a case by case assessment for the widening of the test area (see agenda item 5).

**TRL:**

Check how comments on the benefit assessment can be considered appropriately (see agenda item 5).

**Industry:**

Report about the design effects and feasibility issues with regard to the small overlap testing requirements in the US IIHS testing (see agenda item 5).

**Commission/Industry:**

Prepare a first draft for a test procedure based on the discussion in this meeting.


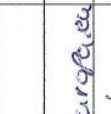
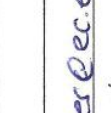
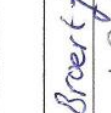
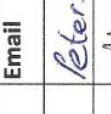
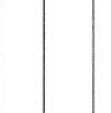
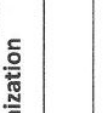
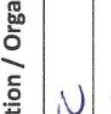
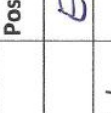





**8. Miscellaneous items, if any**  
(all)

None.

**9. Next meeting, if needed**

It was proposed to hold a next meeting at OICA offices in Paris on 15 May 2014. ***(Note of the secretary: It was confirmed afterwards that this meeting can be held as planned.)*** The intention is to come to a final conclusion for the solution to be proposed and already check a draft amendment to the gtr No 9, if available. This was agreed.

Attachment: Attendance list

List of Attendees	TF-BTA 5 <sup>th</sup> Meeting		
Date, Place	30 Jan. 2014, Brussels		
NAME, First Name	Position / Organization	Email	Signature
BROERTJES, Peter	EC	Peter.Broertjes@ec.europa.eu	
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