European Automobile Manufacturers Association

5th Meeting of Task Force Bumper Test Area Brussels, 30 Jan. 2014

Position of European Car Manufacturers

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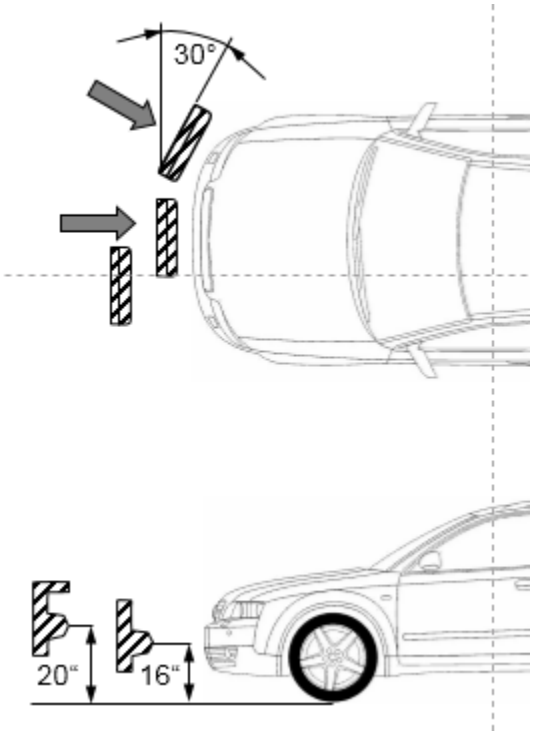
(on behalf of the ACEA Task Force Pedestrians)

ACEA Members' Concerns

- Industry has recognized the concerns of the European Commission regarding the bumper test area and appreciates the activities of TRL
- However, the latest proposals of TRL to use 45° bumper corners and adapt the test procedure accordingly are seen with concerns
- The following items seem to be not recognized accordingly:

Basic approach

- The basic approach of using the current 60° bumper corners is also followed in the test procedures of UN R42 and (US) Code of Federal Regulations part 581
- Pedestrian injuries are assumed to be caused mainly by the structural parts underlying the surface



ACEA Members' Concerns (Continued)

Impactor abilities

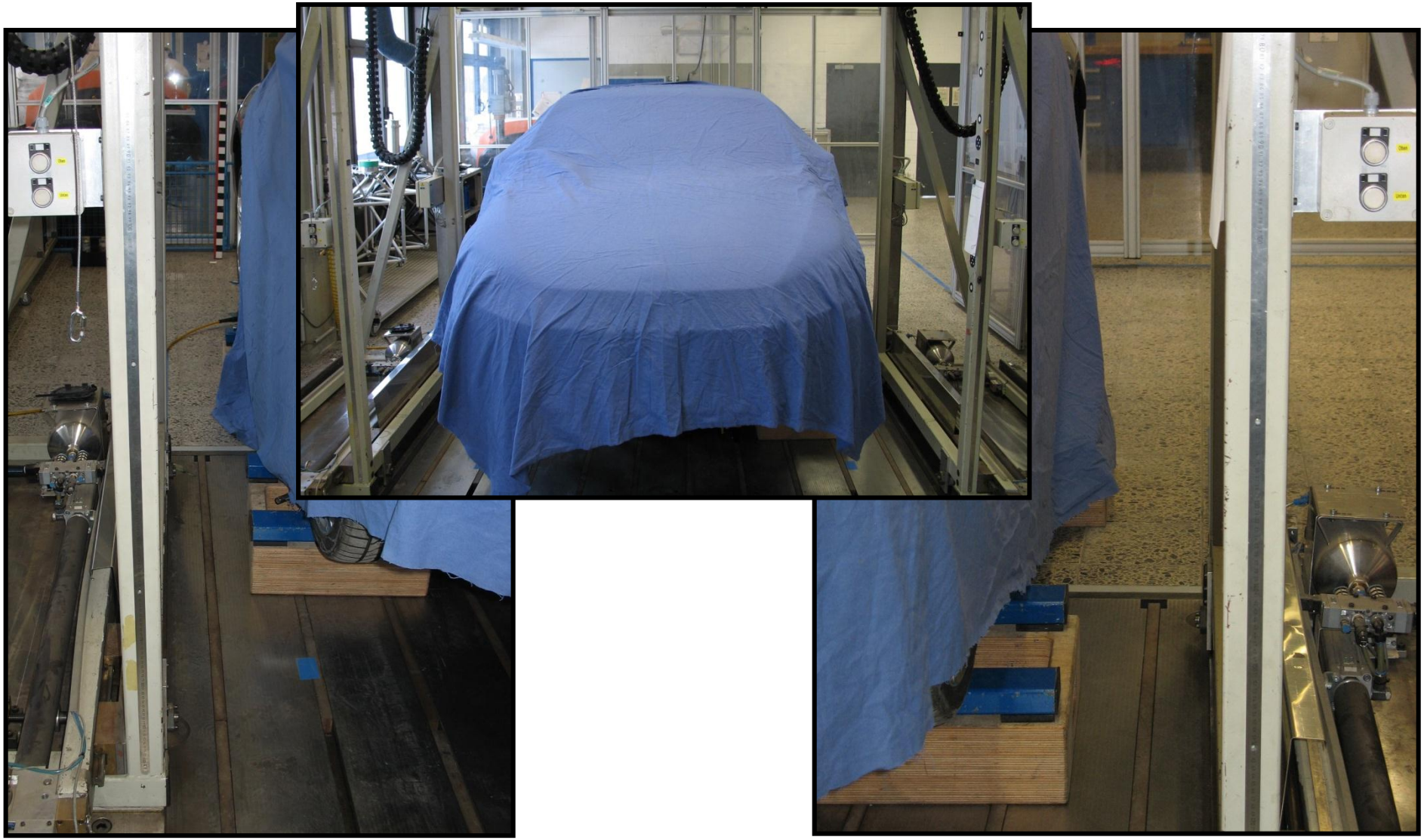
- As shown by Industry (and recognized by several experts in biomechanics), both legform impactors (EEVC LFI as well as FlexPLI) are in principle designed for 2D impacts
- Impactors have not been generally validated for testing against 3D surfaces. However, they may be acceptable (and are accepted) for today's test procedures. Outside of today's test areas the usability for testing is questionable

ACEA Members' Concerns (Continued)

Test execution

- Testing against angular surfaces with an even higher inclination than today of course is possible. However, test results may not be repeatable and reproducible which creates issues for the vehicle design
- Testing in an angle to the vehicle surface as proposed by TRL creates significant additional burden for test labs: The vehicle and/or the launcher unit has to be turned and adjusted several times during each single test series
- In several cases, test facilities are not spacious enough to turn vehicles for an angular impact (see next page) and/or launcher units are not able to be turned
- The definition of bumper corners also influences the test area for the upper leg to bumper test for SUV's where the impactor in many cases is physically not able to be used at angular surfaces

Example for a Small Family Car in the Test Rig



ACEA Members' Concerns (Continued)

Real world applicability

- Conclusions drawn from the accident analyses presented by TRL may not be representative (as indicated in missing differences for vehicles registered before and after the year 2000): Vehicle speed, vehicle age, market introduction etc. need to be considered to assess protective effects of pedestrian safety measures
- The evidence of injuries in the outer bumper area has not yet been investigated for newer cars with a rounded shape compared to older, flat-shaped cars
- Testing in an angle to the driving direction as applied by TRL creates artificial loadings that do not occur in real accidents

ACEA Members' Proposal

- The definition of the bumper corners should consider the structural parts behind the bumper fascia
- This could be guaranteed by two possible approaches:
  - Applying the existing bumper corners in the height where today structural interaction is required by bumper regulations (445 mm for UN R42, 16 – 20 inches (406 – 508 mm) for CFR part 581)
  - Using the solution of Euro NCAP: Measuring the bumper corners at the 60° planes and measuring the overall width of the bumper structural parts and finally conducting the test against the wider of the two areas

Thank you for your attention!