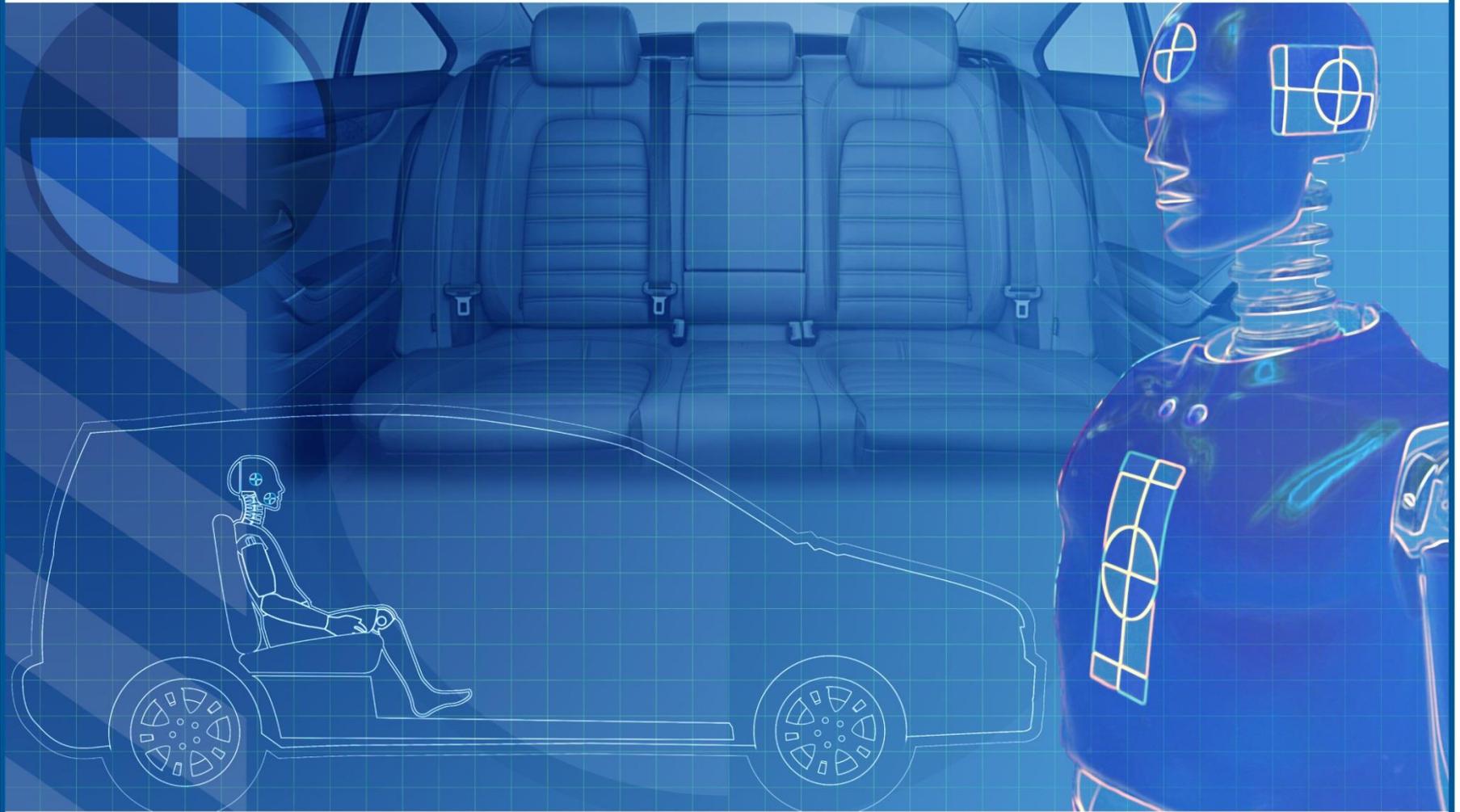




REAR SEAT SAFETY

IN PASSENGER VEHICLES

NATIONAL TRANSPORTATION SAFETY BOARD **WORKSHOP**

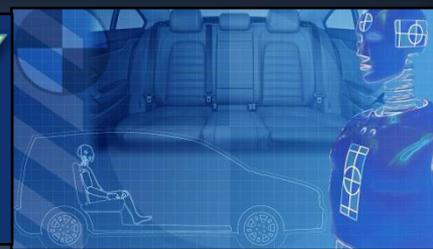


APRIL 26, 2016

WASHINGTON, DC

REAR SEAT SAFETY

IN PASSENGER VEHICLES



Breakout Session Summary: Workshop Consensus and Going Forward

Overview

- Countermeasures
 - Vehicle design
 - Seat design
 - Seat belt use
 - Advanced restraint systems/technology
 - Education
- Data
 - Research methods
 - Availability
 - Reliability

Challenges-Overall

- Rear seat environment is more complex
- Higher occupancy due to shared driver (i.e. Uber, Lyft) and autonomous vehicles
- Cost - research, data, enforcement = who pays?
- Need more & better data on crashes and injuries
- Slow technology development and fleet turnover
- Not one single solution to protect all occupant types
- Competing priorities with other vehicle safety/technology issues
- Cost / increase in vehicle price versus affordability
- Lack of consumer understanding of the issue

Vehicle Design

Examples	Challenges
<ol style="list-style-type: none">1. Implementation of seat belt reminder systems (SBRs) in the U.S. market2. Electronic data recorders standardization and for notification to emergency medical services3. Include rear seat occupants in testing (NCAP, IIHS, FMVSS)4. Merge global standards (for harmonization) is it beneficial?5. Field testing prior to becoming a standard vehicle component slows market penetration	<ul style="list-style-type: none">• With the SBRs, technology must address other uses of the rear seat (i.e. cargo)• High cost in U.S. market• Limited crash data• Too much focus on high speed crashes excludes low speed, more frequent crashes• NCAP and FMVSS are not compatible (i.e. FMVSS 209)• FMVSS are restrictive to manufacturers developing improvements

Vehicle Design, continued.

Examples	Challenges
<ol style="list-style-type: none"><li data-bbox="117 476 1020 591">1. Improving real-world crash data collection (incl. low speed crashes)<li data-bbox="117 625 633 676">2. Cargo securement<li data-bbox="117 711 1049 888">3. In rear impact crashes, small vehicles have limited crush intrusion space available<li data-bbox="117 922 1062 1093">4. Collaboration between child restraint system (CRS) manufacturers and auto manufacturers	<ul style="list-style-type: none"><li data-bbox="1112 476 1785 634">• Finding the balance of complex design versus ease of use for all occupants

Seat Design

Examples	Challenges
<ul style="list-style-type: none">• Seat pan design (ramp angle, length)• Adjustability of restraints / seatbelt anchoring locations• Seatbelt interlocks• Testing of different seat occupants for design & development standards• Integrated booster seats• Designs for older children without need for booster• Ease of use of the seatbelts / location of the adjusters / buckle design	<ul style="list-style-type: none">• Real world positioning of children and adults in seats (including CRS)• Seat design for different sized occupants• CRS seats need to fit the auto seat through collaboration

Seat Belt Use

Examples	Challenges
<ul style="list-style-type: none">• Enact state laws – primary enforcement for all occupants• Utilize local ordinances to create momentum with high visibility enforcement• Geo-marketing Belt fit & comfort changes• Actual visible enforcement with higher fines• Studying why occupants are not wearing their belts• Social norming• Medical community influence	<ul style="list-style-type: none">• Changing the conversation about the national belt use rate at 80% to specific lower rates in states without primary enforcement• Laws – not easy to get passed & there are political consequences

Advanced Restraint Systems/Technology

Examples	Challenges
<ul style="list-style-type: none">• Pretensioners• Adaptive restraints technologies• Partnerships between government research and industry for new technologies• Using AEB example as a guide• Active passive technologies work together• Work with CRS manufacturers	

Education

Examples	Challenges
<ul style="list-style-type: none">• Seat belt reminder systems• Leverage the NCAP to incentivize the manufacturers to improve the safety• Messaging around the technologies• “Beyond” the Click It or Ticket campaign• Targeting messaging to diverse audience• Educating parents for “post-booster” seat belt use for children & teens	<ul style="list-style-type: none">• Overcoming public perception that rear seat occupants don’t need their belt; over-reliance on perception of safety

Education, continued.

Examples	Challenges
<ul style="list-style-type: none">• New partnerships – i.e. student health classes, social media, “shared driver” and employee policies, medical community (pediatricians and general practice)• Collaborate on research priorities• Speak with same voice on issues• Include motor vehicle safety as part of STEM programs	

Summary

- Countermeasures discussed:
 - Vehicle design
 - Seat design
 - Seat belt use
 - Advanced restraint systems/technology
 - Education
- Challenges highlighted:
 - Occupant variability
 - Data
 - Education
 - Laws and enforcement



National Transportation Safety Board