Safety Research Report Index - Side Impact Protection

A. Background

2. Road Safety Bureau Moves for Steel Rails in Automobile Doors, Wall Street Journal, 2/4/70
3. Chrysler Offers Half Loaf in Side Guard Beam, Detroit News, 12/19/72
4. Study Backs Up Standards on Side Impact, Automotive News, 9/10/79
5. Articles From IMPACT Newsletter, 1988-98
8. IIHS Backs Side Impact Protection for Pickups, Vans, & Utility Vehicles, Status Report, 4/7/90
11. Many Side Impact Deaths Could Be Averted, Status Report, 12/31/90
17. Side Airbags Slated for 97 Continental, Automotive News, 11/27/95
19. Special Issue on Side Impact, Status Report, 9/28/96

B. Attorneys

C. Experts

D. Center For Auto Safety

1. Petition to NHTSA requesting improved side structures & interior compartments, 10/31/77
2. NHTSA grant of CAS 10/31/77 petition, 3/31/78
3. Statement of Impact Protection Public Meeting, 1/31/80
4. Comments to Side NHTSA regarding need for side impact protection requirements for RVs, vans & trucks, 3/18/80
5. Letter to NHTSA on termination of FMVSS 214 rulemaking, 8/27/82; NHTSA response, 10/20/82
7. Comments subsequent to Side Impact Protection Public Meeting, 6/6/86
8. Comments on Side Impact Protection, 10/21/88
9. Comments to NHTSA on Standards for Side Impacts with Fixed Roadside Objects, 10/17/88
10. Petition to NHTSA for Reconsideration of Final Rule published in 60 FR 43031 (Docket 92-28; No.4), 9/18/95

E. Federal Motor Vehicle Safety Standard (FMVSS):

a. FMVSS 214 Rulemaking & Documents

1. FMVSS 214
2. FMVSS 214 Rulemaking History
4. Proposed Rule, 35 FR 6512, 4/23/70
5. NHSB press release on proposed side door strength regulation, 4/30/70
6. Final Rule, Original Static Side Impact Standard for Passenger Cars, 35 FR 16801, 10/30/70
7. NHSB press release on new FMVSS 214, 11/8/70
8. NHTSA memo on side impact public hearings, 2/79
10. Summary of Comments in Response to Docket 79-04; Notice 1, 7/79
12. Proposed Rule, Upgrade Side Impact Protection & Extend to Light Trucks, Vans & MPVs, 44 FR 70204, 12/6/79
13. DOT press release on improved side impact protection public meeting, 1/31/80
14. List of Witnesses, NHTSA Side Impact Protection upgrade, 1/31/80
15. Final Rule, Seats Remain During Testing, 45 FR 17015, 3/17/80
16. List of Comment Submitters, FMVSS 214, NPRM, Docket No. 79-04, Notice 1, 1980-81
18. NHTSA memo regarding common meaning of side door strength, 3/5/81
19. D. Carroll, IIHS, Side Impact Overview, circa 1981
20. Termination of Rulemaking Proceedings to amend FMVSS 214, 47 FR 30084, 7/12/82
23. List of Witnesses, NHTSA Side Impact Protection Upgrade, 5/28/86
25. W.R.S. Fan, NHTSA, Occupant Ejection Mitigation Accident Data & Door Latch, 5/86
26. E. Jettner, NHTSA, Improved Glazing, 5/86
27. T. Hollowell, NHTSA, Evaluation of Structural Modification & Integrated Padding, 5/86
28. List of Comments Submitted, FMVSS 214, NPRM, (Docket 79-04; No. 2), 1986-87
29. NHTSA Preliminary Regulatory Impact Analysis; New Requirements for Passenger Cars to Meet a Dynamic Side Impact Test, 1/88
32. Preliminary Regulatory Impact Analysis, ANPRM for Side Impact Protection Upgrade, (Docket 88-06; No. 3), 5/88
33. Proposed Rule, Requirements Reducing Head & Neck Injuries & Ejections, 53 FR 31712, 8/19/88
34. Advanced Notice of Proposed Rule, Side Impact Standards for Light Trucks, Vans & MPVs, 53 FR 31716, 8/19/88
35. IIHS Comments on need for side impact protection rulemaking, (Docket 88-06; No. 3), 10/18/88
36. IIHS Comments Support of NHTSA proposal to amend FMVSS 214 by limiting chest and pelvic injuries in a barrier-to-car crash test. 53 FR 31712, (Docket 88-06; No. 1), 10/24/88
37. Summary of Comments in Response to Docket 86-06; Notice 1, 1/27/89
38. Proposed Rule, Side Impact Standards for Light Trucks, Buses & MPVs, 54 FR 52826, 12/22/89
39. Ford Letter to NHTSA regarding side impact variability testing results, 5/4/90
40. Secretary Skinner Announces Improved Protection for Car Occupants, NHTSA Press Release with Accompanying Transportation Facts, 10/24/90
41. Final Rule, Dynamic Side Impact Standards for Passenger Cars, 55 FR 45722, 10/30/90
42. Transcript, NHTSA Public Meeting on Side Impact New Car Assessment Program, 1/18/91
43. New Side Door Standard to Make Light Trucks & Vans Safer, NHTSA Press Release, 6/12/91
44. **Final Rule** Quasi-Static Test Requirement of 214 Extended to Trucks, Buses & MPVs with a GVWR of 10,000 Pounds or Less. 56 FR 27427, (88-06; No.11), 6/14/91
45. NHTSA Side Impact Protection, Laboratory Test Procedure, (Docket 88-06; No.12), 56 FR 40937, 8/16/91
46. **NPRM** Clarification on how Quasi-Static Door Strength Test Procedure is to be Conducted in Case of Various Types of Vehicles. 57 FR 1716, (Docket 88-06; No.14), 1/15/92
47. NHTSA Response to Petitions for Reconsideration. 57 FR 3556, (Docket 88-06; No.15), 1/30/92
48. ANPRM Extension of Passenger Car Dynamic Side Impact Requirement to Light Trucks, Buses & MPVs. 57 FR 24009, (Docket 88-06; No.18), 6/5/92
49. NHTSA Response to GM Petition for Reconsideration Regarding Phase in Requirement for FMVSS 214. 57 FR 30917, (Docket 88-06; No.19), 7/13/92
50. Advocates for Auto & Highway Safety Comments on side impact, 8/4/92
51. IIHS Comments on SIP, 8/4/92
52. **Final Rule** Procedure for Conducting Quasi-Static Door Strength Tests. 58 FR 14162, (Docket 88-06; No.21), 3/16/93
53. NHTSA, SIP Dynamic Testing, Responses by Manufacturers, 6/16/93-10/28/93
54. IIHS Comments in support of NHTSA extending side impact requirement to light trucks, buses & MPVs with GVWR less than 8,500 pounds. 57 FR 24009-12, (Docket 88-06; No.23), 8/15/94
55. **Final Rule** Extend FMVSS 214 to include light trucks, buses & MPVs with GVWR of 6,000 pounds or less, 60 FR 38749, (Docket 88-06; No.24), 7/28/95
56. Advocates for Auto & Highway Safety Petition to open rulemaking on FMVSS 214, 7/2/98
57. **NPRM** Grant of Advocates Petition 11/9/98

b. **FMVSS 201 (Rulemaking Documents Relating to Side Impact)**
1. **Final Rule** Head Impact Protection - Occupant Protection in Interior Impact. 60 FR 43031, (Docket 92-28; No. 4), 8/18/95
2. Petitions for Reconsideration, Occupant Protection Interior Impact. 60 FR 43031-61, (Docket 92-28; No.4), 9/15/95: AAMA, BMW, Ford, Mercedes Benz, Toyota, Volkswagen & Volvo
3. **ANPRM** Amend Standard to Accommodate Vehicles with Side Airbags. 61 FR 9136, (Docket 92-28; No. 6), 3/7/96
4. IIHS Comments Supplementary Side Impact into Pole Crash Test Results. (Docket 92-28; No.8), 10/27/97 & 11/14/97

**F. Technical Materials on Injury Mechanisms**
3. Passenger Protection in Side Impacts, General Motors Technical Center, 1973
9. R. F. Neathery, Oklahoma State University, Review of Human Tolerance to Side Impact, 1979
19. D. Kallieris, et al., Vertebral Column Injuries in 90-Degrees Collisions, IRCOBI, 9/87
27. S.J. Shaibani, et al., Comparisons of the Thoracic Trauma Index with Other Models, Journal of Accident Analysis and Prevention, Vol. 22, 1989
28. Z. M. Gorski, et al., Practical Problems Related to Side Impact Field Data Accuracy and Its Importance to Side Impact Protection Assessments, SAE Paper #910317, 2/91

G. Structural Improvements & Innovations
1. C.E. Hedeen, et al., Side Impact Structures, GM Automotive Safety Seminar, 7/68
6. IIT Research Institute, Composite Materials in Automobile Side Structure -- Feasibility
Evaluation,  Twelfth Month Progress Report, 6/74  
7.  IIT Research Institute,  Composite Materials in Automobile Side Structures -- Feasibility Evaluation,  Fourteenth Month Progress Report, 8/74  

32. B. Lundell, et al., Advances in Occupant Protection Technologies for the Mid-Nineties, Global Mobility Database, 295

H. Vehicle Crash Tests and Analysis

1. NHTSA Dynamic Crash Test List, 1978-91
2. H. Scheuerman, et al., Federal Aviation Administration, Automotive Lateral-Impact Collision Test, Phase I, 1975 (Appendices Omitted)
13. B. N. Fildes, et al., Crash Performance and Occupant Safety in Passenger Cars Involved in Side Impacts, IRCOBI, 9/90

I. Resources

1. General Reference Docket Index, 79-04-GR (List of technical reports and materials in rulemaking record for NHTSA's Dynamic Side Impact Standard)