

Committee on Energy and Commerce
U.S. House of Representatives
Witness Disclosure Requirement - "Truth in Testimony"
Required by House Rule XI, Clause 2(g)(5)

1. Your Name: David Zuby		
2. Your Title: Executive Vice President and Chief Research Officer		
3. The Entity(ies) You are Representing: Insurance Institute for Highway Safety		
4. Are you testifying on behalf of the Federal, or a State or local government entity?	Yes	No X
5. Please list any Federal grants or contracts, or contracts or payments originating with a foreign government, that you or the entity(ies) you represent have received on or after January 1, 2015. Only grants, contracts, or payments related to the subject matter of the hearing must be listed. N/A		
6. Please attach your curriculum vitae to your completed disclosure form.		

Signature:  Date: 3/23/17

BIOGRAPHICAL SKETCH

NAME Zuby, David S.	POSITION TITLE Executive Vice President & Chief Research Officer Insurance Institute for Highway Safety		
ERA COMMONS USER NAME			
EDUCATION/TRAINING			
INSTITUTION AND LOCATION	DEGREE (if applicable)	YEAR(s)	FIELD OF STUDY
Northwestern University	B.S.	1986	Biomedical Engineering
Case Western Reserve University		1991-93	Mechanical Engineering

A. Positions and Honors

Positions and Employment

2014 to Present	Executive Vice President, Insurance Institute for Highway Safety, Arlington, VA
2010 to Present	Chief Research Officer, IIHS
2006 to 2010	Senior Vice President, Research, IIHS
1995 to 2006	Vice President, Research, IIHS
1995 to 1995	Assistant Vice President, IIHS
1993 to 1995	Bioengineer; Senior Research Engineer, IIHS
1990 to 1992	Supervisor, Research Engineering, Transportation Research Center, East Liberty, OH
1986 to 1990	Research Engineer, TRC

B. Selected peer-reviewed publications (in chronological order)

1. Cicchino, J.B.; Zuby, D.S. August 2016. Prevalence of driver physical factors leading to unintentional lane departure crashes, Insurance Institute for Highway Safety.
2. Trempel, R.E.; Zuby, D.S.; Edwards, M.A. 2016. IIHS head restraint ratings and insurance injury claim rates, *Traffic Injury Prevention*.
3. Zuby, D.S. June 2015. Consumer safety information programs at IIHS, Proceedings of the 24th International Technical Conference on the Enhanced Safety of Vehicles (CD-ROM).
4. MacAlister, A.; Zuby, D.S. 2015. Cyclist crash scenarios and factors relevant to the design of cyclist detection systems, Proceedings of the 2015 International IRCOBI Conference on the Biomechanics of Injury.
5. Mueller, B.C.; MacAlister, A.; Nolan, J.M.; Zuby, D.S. June 2015. Comparison of HIC and BrIC head injury risk in IIHS frontal crash tests to real-world head injuries, Proceedings of the 24th International Technical Conference on the Enhanced Safety of Vehicles (CD-ROM).
6. O'Malley, S.; Zuby, D.S.; Moore, M.J.; Paine, M.; Paine, D. June 2015. Crashworthiness testing of electric and hybrid vehicles, Proceedings of the 24th International Technical Conference on the Enhanced Safety of Vehicles (CD-ROM).
7. Wilson, M.; Aylor, D.A.; Zuby, D.S.; Nolan, J.M. 2015. Brake burnishing effect on AEB performance, SAE Technical Paper 2015-01-1481.
8. Mueller, B.C.; Brethwaite, A.S.; Zuby, D.S.; Nolan, J.M. November 2014. Structural design strategies for improved small overlap crashworthiness performance, *Stapp Car Crash Journal*.

9. Sherwood, C.P.; Mueller, B.C.; Nolan, J.M.; Zuby, D.S.; Lund, A.K. November 2013. Development of a frontal small overlap crashworthiness evaluation test, *Traffic Injury Prevention*.
10. Moore, M.J.; Zuby, D.S. June 2013. Collision avoidance features: initial results, Proceedings of the 23rd International Technical Conference on the Enhanced Safety of Vehicles (CD ROM).
11. Mueller, B.C.; Farmer, C.M.; Jermakian, J. S.; Zuby, D.S. November 2013. Relationship between pedestrian head form tests and injury and fatality rates in vehicle-to-pedestrian crashes in the United States, *Stapp Car Crash Journal*.
12. Mueller, B.C.; Sherwood, C.P.; Nolan, J.M.; Zuby, D.S. June 2013. Repeatability of IIHS small overlap frontal crash tests, Proceedings of the 23rd International Technical Conference on the Enhanced Safety of Vehicles (CD ROM).
13. Sherwood, C.P.; Mueller, B.C.; Nolan, J.M.; Zuby, D.S. 2011 The development of a test for determining crashworthiness in small overlap frontal crashes. Proceedings of the 22nd International Technical Conference on the Enhanced Safety of Vehicles (CD ROM) Washington, DC: National Highway Traffic Safety Administration.
14. Mueller, B.C.; Sherwood, C.P.; Arbelaez, R.A.; Zuby, D.S.; Nolan, J.M. November 2011. Comparison of Hybrid III and THOR dummies in paired small overlap tests. *Stapp Car Crash Journal*.
15. Jermakian, J.S.; Zuby, D.S. April 2011. Primary pedestrian crash scenarios: factors relevant to the design of pedestrian detection systems. Arlington, VA: Insurance Institute for Highway Safety.
16. Braitman, K.A.; McCartt, A.T.; Zuby, D.S.; Singer, J. June 2010. Volvo and Infiniti drivers' experiences with select crash avoidance technologies. *Traffic Injury Prevention*. 11 (3) :270-278.
17. Aylor, D.A.; Zuby, D.S. 2011 Comparison of BioRID injury criteria between dynamic sled tests and vehicle crash tests. Proceedings of the 22nd International Technical Conference on the Enhanced Safety of Vehicles (CD ROM) Washington, DC: National Highway Traffic Safety Administration.
18. Zuby, D.S.; Lund, A.K. June 2010. Consumer whiplash ratings – Have they influenced seat designs in helpful ways? FISITA 2010 World Automotive Congress Proceedings. Budapest, Hungary: Gépipari Tudományos Egyesületet (GTE).
19. Zuby, D.S.; Lund, A.K. April 2010. Preventing minor neck injuries in rear crashes – forty years of progress. *Journal of Occupational and Environmental Medicine*. 52 (4) :428-433.
20. Zuby, D.S.; Locke, G.; Aylor, D. November 2010. Seat design characteristics for whiplash mitigation as indicated by tests with BioRID. Munich, Germany: TÜV SÜD Akademie GmbH.
21. Sherwood, C.P.; Zuby, D.S.; Nolan, J.M.; Aylor, D.A. September 2010. The accuracy of velocity change estimates in small overlap frontal crashes. Proceedings of the Fourth International Expert Symposium on Accident Research (CD-ROM) Hannover, Germany: Hannover Medical School.
22. Brumbelow, M.L.; Teoh, E.R.; Zuby, D.S.; McCartt, A.T. June 2009. Roof strength and injury risk in rollover crashes. *Traffic Injury Prevention*. 10 (3) :252-265.
23. Braver, E.R.; McCartt, A.T.; Sherwood, C.P.; Zuby, D.S.; Blonar, L.; Scerbo, M.. April 2010. Front air bag nondeployments in frontal crashes fatal to drivers or right-front passengers. *Traffic Injury Prevention*. 11 (2) :178-187.
24. Sherwood, C.P.; Nolan, J.M.; Zuby, D.S. June 2009. Characteristics of small overlap crashes. Proceedings of the 21st International Technical Conference on the Enhanced Safety of Vehicles (CD-ROM) Washington, DC: National Highway Traffic Safety Administration.
25. Farmer, C.M.; Zuby, D.S.; Wells, J.K.; Hellinga, L.A. December 2008. Relationship of dynamic seat ratings to real-world neck injury rates. *Traffic Injury Prevention*. 9 (6) :561-567.

26. Brumbelow, M.L.; Zuby, D.S. June 2009. Impact and injury patterns in frontal crashes of vehicles with good ratings for frontal crash protection. Proceedings of the 21st International Technical Conference on the Enhanced Safety of Vehicles (CD-ROM) Washington, DC: National Highway Traffic Safety Administration.
27. Avery, M.J.; Zuby, D.S.; Gane, J.W.; Cox, M.C. April 2009. GLORIA: Design and development of a calibration jig for H-point machines used for the measurement of head restraint geometry. SAE Technical Paper Series 2008-01-0348. *SAE International Journal of Passenger Cars - Mechanical Systems* (V1117-6) 1 (1) :293-300. Warrendale, PA: Society of Automotive Engineers.
28. Zuby, D.S.; Farmer, C.M. November 2008. Relationship between seat rating test results and neck injury rates in rear crashes.
29. Zuby, D.S.; Lund, A.K. November 2007. Minor neck injuries in rear crashes – international problem and progress.
30. Brumbelow, M.L.; Zuby, D.S. 2007. Measurement error in lateral thoracic deflection and deflection rate due to oblique loading. SAE Technical Paper Series 2007-01-0705 Safety Test Methodology (SP-2123) Warrendale, PA: Society of Automotive Engineers.
31. Aylor, D.A.; Nolan, J.M.; Zuby, D.S.; and Baker, B.C. 2006. How the 64.4 km/h (40 mi/h) frontal offset deformable crash test relates to real-world crash severity. Poster paper to be presented at the Second International Expert Symposium on Accident Research. Hannover, Germany: Hannover Medical School.
32. Edwards, M.; Smith, S.; Zuby, D.S.; and Lund, A.K. 2005. Improved seat and head restraint evaluations. Proceedings of the 19th International Technical Conference on the Enhanced Safety of Vehicles (CD-ROM). Washington, DC: National Highway Traffic Safety Administration.
33. Nolan, J.M.; Brumbelow, M.; Zuby, D.S.; and Avery, M. 2004. Important considerations in the development of a test to promote stable bumper engagement in low-speed crashes. SAE Technical Paper Series 2004-01-1319. Warrendale, PA: Society of Automotive Engineers.
34. Zuby, D.S.; Farmer, C.M.; and Avery, M. 2003. The influence of crash pulse shape on BioRID response. Proceedings of the 2003 International IRCOBI Conference on the Biomechanics of Impact (CD-ROM). Bron, France: International Research Council on the Biomechanics of Impact.
35. Dakin, G.J.; Arbelaez, R.A.; Nolan, J.M.; Zuby, D.S.; and Lund, A.K. 2003. Insurance Institute for Highway Safety side impact crashworthiness evaluation program: impact configuration and rationale. Proceedings of the 18th International Technical Conference on the Enhanced Safety of Vehicles (CD-ROM). Washington, DC: National Highway Traffic Safety Administration.
36. Zuby, D.S. and Avery, M. 2002. BioRID responses and the effect of crash pulse characteristics. IMechE Conference Transactions: International Conference on Vehicle Safety 2002, 207-16. London, United Kingdom: Professional Engineering Publishing Ltd.
37. Edwards, M.A.; Zuby, D.S.; and Nelson, L.A. 2002. Comparison of driver head positions — volunteers versus dummies. Proceedings of the 2002 International IRCOBI Conference on the Biomechanics of Impact, 359-60. Bron, France: International Research Council on the Biomechanics of Impact.
38. Zuby, D.S.; Nolan, J.M.; and Sherwood, C.P. 2001. Effect of Hybrid III leg geometry on upper tibia bending moments. SAE Technical Paper Series 2001-01-0169. Warrendale, PA: Society of Automotive Engineers.
39. Zuby, D.S.; Cammisa, M.X.; and Ferguson, S.A. 2001. Analysis of driver fatalities in frontal crashes of airbag-equipped vehicles in 1990-98 NASS/CDS. SAE Technical Paper Series 2001-01-0156. Warrendale, PA: Society of Automotive Engineers.
40. Zuby, D.S. and O'Neill, B. 2001. Steering column movement in severe frontal crashes and its potential effect on airbag performance. Proceedings of the 17th International Technical Conference on the Enhanced Safety of Vehicles (CD ROM). Washington, DC: National Highway Traffic Safety Administration.

41. Zuby, D.S.; Vann, D.T.; Lund, A.K.; and Morris, C.R. 1999. Crash test evaluation of whiplash injury risk (SAE 99SC17). Proceedings of the 43rd Stapp Car Crash Conference (P-350), 267-78. Warrendale, PA: Society of Automotive Engineers.
42. Zuby, D.S. and Powell, M.R. 1999. Testing of passenger airbags with 12-month-old infant CRABI dummy to assess injury risk to restrained infants. Arlington, VA: Insurance Institute for Highway Safety.
43. Powell, M.R. and Zuby, D.S. 1999. Testing of passenger airbags with 6-year-old child Hybrid III dummy to assess injury risk to belted children. Arlington, VA: Insurance Institute for Highway Safety.
44. Morris, C.R.; Zuby, D.S.; and Lund, A.K. 1998. Measuring airbag injury risk to out-of-position occupants. Proceedings of the 16th International Technical Conference on the Enhanced Safety of Vehicles, 2:1036-43. Washington, DC: National Highway Traffic Safety Administration.
45. Meyerson, S.L.; Zuby, D.S.; and Lund, A.K. 1998. Repeatability of frontal offset crash tests. Proceedings of the 16th International Technical Conference on the Enhanced Safety of Vehicles, 3:2400-11. Washington, DC: National Highway Traffic Safety Administration.
46. Zuby, D.S.; Nolan, J.M.; and Meyerson, S.L. 1997. An example of the crash protection provided by a driver airbag in an offset frontal crash test. Arlington, VA: Insurance Institute for Highway Safety.
47. Powell, M.R. and Zuby, D.S. 1997. Injury risk and seating position for fifth percentile female drivers – crash tests with 1990 and 1992 Lincoln Town Cars. Arlington, VA: Insurance Institute for Highway Safety.
48. Zuby, D.S. and Farmer, C.M. 1996. Lower extremity loads in offset frontal crashes. Proceedings of the 15th International Technical Conference on the Enhanced Safety of Vehicles, 414-21. Washington, DC: National Highway Traffic Safety Administration.
49. O'Neill, B.; Lund, A.K.; Zuby, D.S.; and Estep, C.R. 1996. New vehicle crashworthiness evaluations by the Insurance Institute for Highway Safety. Proceedings of the 15th International Technical Conference on the Enhanced Safety of Vehicles, 2030-39. Washington, DC: National Highway Traffic Safety Administration.
50. Zuby, D.S.; Farmer, C.M.; and Lund, A.K. 1995. Intrusion and lower extremity injury risk in offset frontal test crashes. SAE Technical Paper Series 950500. Warrendale, PA: Society of Automotive Engineers.
51. Lund, A.K.; Zuby, D.S.; and Nolan, J.M. 1995. Deformable barriers and occupant protection in offset frontal car-to-car crashes. SAE Technical Paper Series 950496. Warrendale, PA: Society of Automotive Engineers.
52. O'Neill, B.; Lund, A.K.; Zuby, D.S.; and Preuss, C.A. 1994. Offset frontal impacts – a comparison of real-world crashes with laboratory tests. Proceedings of the 14th International Technical Conference on the Enhanced Safety of Vehicles, 649-70. Washington, DC: National Highway Traffic Safety Administration.
53. MacLaughlin, T.F.; Zuby, D.S.; Elias, J.C.; and Tanner, C.B. 1993. Vehicle interactions with pedestrians. Accidental Injury: Biomechanics and Prevention, 539-66. New York, NY: Springer Verlag.
54. Saul, R.A. and Zuby, D.S. 1992. Analysis of Hybrid III lower leg instrumentation and an associated injury criterion. Report no. DOT HS-807-771. Washington, DC: National Highway Traffic Safety Administration.
55. Zuby, D.S. 1991. Evaluation of BioSID and EuroSID-1; Volume 6: Comparison of the dynamic responses of BioSID S/N 01 and 02 to the ISO guidelines for side impact dummy response. Report no. DOT HS-807-812. Washington, DC: National Highway Traffic Safety Administration.
56. Zuby, D.S. 1991. Evaluation of BioSID and EuroSID-1; Volume 5: BioSID durability analysis. Report no. DOT HS-807-811. Washington, DC: National Highway Traffic Safety Administration.
57. Zuby, D.S. 1991. Evaluation of BioSID and EuroSID-1; Volume 4: BioSID repeatability and reproducibility. Report no. DOT HS-807-810. Washington, DC: National Highway Traffic Safety Administration.
58. Zuby, D.S. 1991. Evaluation of BioSID and EuroSID-1; Volume 3: BioSID calibration data analysis. Report no. DOT HS-807-809. Washington, DC: National Highway Traffic Safety Administration.

59. Zuby, D.S. 1991. Evaluation of BioSID and EuroSID-1; Volume 1: Padded wall comparison tests BioSID, EuroSID, and SID. Report no. DOT HS-807-807. Washington, DC: National Highway Traffic Safety Administration.
60. Saul, R.A. and Zuby, D.S. 1991. Development of a facial injury test procedure; Part I: Facial injury test device evaluation; Part II: NASS facial injury accident data analysis. Report no. DOT HS-807-854. Washington, DC: National Highway Traffic Safety Administration.
61. Lemmon, D.R.; Ballinger, R.S.; Huston, R.L.; Zuby, D.S.; Elias, J.C.; and Kessler, J.W. 1991. Finite element modeling of pedestrian head impact onto automobile hoods. Proceedings of the 13th International Technical Conference on the Experimental Safety of Vehicles, 317-22. Washington, DC: National Highway Traffic Safety Administration.
62. Kaniathra, J.N.; Gabler, H.C.; Wilke, D.T.; and Zuby, D.S. 1991. Comparative evaluation of SID, BioSID, and EuroSID in safety performance assessment in side impacts. Proceedings of the 13th International Technical Conference on the Experimental Safety of Vehicles, 573-87. Washington, DC: National Highway Traffic Safety Administration.
63. Zuby, D.S. and Saul, R.A. 1989. Restrained drivers' facial skeleton injuries resulting from steering assembly contact: a conspectus. Proceedings of the 12th International Technical Conference on the Experimental Safety of Vehicles, pp. Washington, DC: National Highway Traffic Safety Administration.
64. Zuby, D.S. 1987. Steering assembly induced facial injury. Report no. 87-WA/SAF-3. New York, NY: American Society of Engineers.