



Billy S. Cox, Jr. – Crash Expert

**15551 FM 362
Navasota, Texas 77868
Phone: 979-595-1233
Web: www.billycoxgroup.com
Email: billy_cox@billycoxgroup.com**

**January 2008 Billy Cox Group
TO Navasota, Texas
Present**

Consulting Expert-Crash Reconstruction and Impact Biomechanics

In 2008, Mr. Cox formed his own consulting company with a focus on providing reliable, scientifically relevant, unbiased expert consulting services in the areas crash reconstruction and impact biomechanics.

Since 1986, Mr. Cox has served as an expert and consultant in the areas of transportation crash reconstruction, impact biomechanics and crash injury mechanism in motor vehicle crashes. Mr. Cox continuously conducts research to study the effects of impact forces on human volunteers in motor vehicle collisions. His experience, education, training and research have allowed Mr. Cox to provide expert testimony in County, State and Federal courts in the United States more than 150 times in the last 21 years. Mr. Cox is frequently invited to speak on the subject of impact biomechanics, crash reconstruction and crash related injury and has provided expert consulting services on two Discovery Channel projects, a feature film project and numerous local broadcast media stories.

**01/99 EFI Global, Inc.
TO Kingwood, Texas
12/07**

Consulting Expert-Transportation Forensic Services

During his tenure with EFI Global, Inc., Mr. Cox served as a testifying expert and consultant in the areas of transportation crash reconstruction, impact biomechanics and injury mechanism analysis associated with motor vehicle components and motor vehicle crashes and as Director of Transportation Forensic Services. Mr. Cox coordinated the distribution of case assignments in the areas of crash reconstruction, biomechanical analysis and crash-related vehicle forensic analysis on a national basis. He was responsible for training engineering staff on proper engineering protocol in the analysis of automobile collisions and automobile related biomechanical analysis. Mr. Cox implemented and supervised national engineering protocol in the area of transportation forensic services while at EFI Global, Inc.

**06/91 Billy Cox & Associates
TO 9000 Southwest Freeway, Suite 400
01/99 Houston, Texas 77074**

CEO-Principal Forensic Analyst

Formed Billy Cox & Associates to provide transportation accident reconstruction and forensic services. Supervised the activities of analysts in the areas of forensic analysis and reconstruction. Provided expert consulting services to various clients in the areas of transportation accident reconstruction, biomechanics and injury mechanisms associated with vehicle components such as restraint and airbag systems. Designed sophisticated equipment to study occupant kinematics, collision dynamics and injury mechanism in low velocity collisions. Supervised and conducted tests to study the effects of impact forces on humans in motor vehicle collisions. Worked as a contract consultant with CARS, Inc. of Fort Worth, Texas and Garrett Engineers of Houston, Texas. Provided expert testimony in County, State and Federal courts in the United States and The Netherlands. Frequently invited to speak on the subject of impact biomechanics, accident reconstruction and vehicle dynamics. Total firm cases: 5500+.

01/90 **Litigation Support Group**
TO **301 Commerce Street, Suite 2230**
05/91 **Fort Worth, Texas 76102**

Manager and Consulting Expert-Transportation Forensic Services

Organized new firm that provided transportation accident reconstruction services, video production and 3D animation services, investigations and demonstrative evidence production. Consulted as an accident reconstruction expert and demonstrated abilities in civil proceedings. Testified as an expert in trial and deposition on numerous occasions. Supervised the activities of analysts in the areas of accident analysis and reconstruction. Frequent speaker on transportation accident reconstruction topics. Total firm cases, 200+.

07/84 **Executive Protective Systems**
TO **801 Cherry Street, Suite 1500**
01/90 **Fort Worth, Texas 76102**

Manager and Consulting Expert-Transportation Forensic Services

Performed functions related to motor vehicle accident reconstruction for a variety of clients in over 200 cases. Performed accident site inspections, vehicle inspections, prepared reconstruction reports and demonstrative aids. Presented findings for civil court proceedings.

08/80 **Haltom City Police Department**
TO **Haltom City, Texas**
07/84

Police Officer/Traffic Accident Investigator

Conducted investigations relating to motor vehicle accidents. Attended over 300 accident scenes during tenure with the police department. From November 1982 to July 1984, assigned to the Traffic Division of the police department. Functions included enforcement of traffic laws and investigation of all motor vehicle accidents.

PROFESSIONAL ORGANIZATIONS

- Texas Private Security Bureau, Investigation Company License #A14908
- Accreditation Commission for Traffic Accident Reconstruction (ACTAR #983)
- National Association of Professional Reconstruction Specialists (NAPARS)
- Society of Automotive Engineers (SAE)
- Society of Accident Reconstructionist (SOAR)
- Southwestern Association of Technical Accident Reconstruction (SATAI)

RESEARCH APPOINTMENTS

- Johns Hopkins University Applied Physics Lab, Laurel, MD. "Contribution of Seat Properties to Occupant Injury In Rear Impact Sled Testing". June 1st to August 17, 2001. NHTSA Contract FF7UGXX.

SEMINARS AUTHORED

- Introduction to Low Speed Impact Biomechanics (2.0) 📄
- Advanced Impact Biomechanics (4.0) 📄
- Collision Fraud and Staged Crash Analysis (3.0) 📄

📄 Approved for two hours of Continuing Education credit by Texas and Oklahoma Departments of Insurance.

📄 Approved for three hours of Continuing Education credit by Texas and Oklahoma Departments of Insurance.

📄 Approved for four hours Continuing Education credit by the Texas Department of Insurance.

MISCELLANEOUS CONTRIBUTIONS

- “Grindhouse.” A Robert Rodriguez-Quentin Tarantino Film. Consulted with Mr. Tarantino and stunt coordinators on crash dynamics and occupant biomechanics for crash sequence. Film released March 2007.
- “Guinea Pig.” The Discovery Channel – Canada. Consulting expert on human subject crash test instrumentation with host, Ryan Stock during shoot in Las Vegas, Nevada in June 2006.
- “Crash Detectives”. The Discovery Channel. Featured expert on impact biomechanics and automobile crash forensic engineering on March 2 & 7, 1999.
- “Testing the Body Endurance”. SIU Awareness. (International Association of Special Investigation Units, June 1997) pp. 14-18.
- “Biomechanics: A Renaissance in the Prevention of Soft Tissue Fraud”. Spotlight. (National Insurance Crime Bureau, Issue IV, 1997) pp.6-7.

PUBLICATIONS

- Cox, Billy S. Jr., “Event Data Recorders’ Role in Accident Reconstruction.” Claims Volume 54, Number 6. June 2006.
- Cox, Billy S. Jr., “No Damage, No Injury: Myth or Truth.” Accident Alert Vol. IV, Issue III (Billy Cox & Associates, Summer 1997): N.P.
- Cox, Billy S. Jr., and Alred, John W. Ph.D., “Parabolic Flight.” TAARS Newsletter (Texas Association of Accident Reconstruction Specialists, Summer 1996): p. 11-12.
- Cox, Billy S. Jr., “Passenger Side Air Bags: Friend or Foe?” Accident Alert Vol. II, Issue 3 (Billy Cox & Associates, July 1995): N.P.
- Cox, Billy S. Jr., “Photography Tips and Hints.” Accident Alert Vol. II, Issue 2 (Billy Cox & Associates, April 1995): N.P.
- Cox, Billy S. Jr., “Why are Lamp Examinations So Important?” Accident Alert Vol. II, Issue 1 (Billy Cox & Associates, January 1995): N.P.

ENGINEERING AND PHYSICS CONCEPTS IN PROFESSIONAL EDUCATION COURSES

Topics in Accident Investigation & Reconstruction Courses

- Angular Momentum
- Conservation of Energy
- Conservation of Linear Momentum
- Elastic Deformation
- Force
- Frictional Forces
- Gravitational Force
- Hooke’s Law
- Horsepower
- Impulses
- Impact Biomechanics
- Inertia
- Injury identification
- Kinetic Energy
- Kinetic Equations for acceleration, time, displacement and velocity change
- Moments
- Occupant Dynamics
- Plane Geometry
- Plastic Deformation
- Projectile Motion
- Pythagorean Theorem
- Rotational Dynamics
- Rotational Equilibrium
- Sines, Cosines & Tangents
- Time/Distance Relationships
- Torque
- Trigonometry
- Vector Sum Analysis
- Vehicle Dynamics

PROFESSIONAL EDUCATION AND APPLICABLE TRAINING

Reserve Police Officers Academy, Security Sciences Institute, Fort Worth Texas June 1980	70 hours
Basic Peace Officer Training Course, Tarrant County Junior College Regional Police Academy. Class Valedictorian , February 1981	360 hours
Basic Police Solo Motors Training Course, D/FW Airport DPS November 1983	40 hours
Advanced Police Solo Motors Training Course, D/FW Airport DPS November 1983	40 hours
Intermediate Accident Investigation, North Texas Council of Governments Regional Police Academy January 1984	35 hours
Police Instructor, Security & Firearms Instructor, Texas A&M University January 1986	60 hours
Accident Investigation - Phase II, Texas Traffic Safety Institute Texas A&M University System May 1987	80 hours
Accident Reconstruction, Texas A&M University System January 1988	80 hours
Heavy Truck Accident Investigation and Reconstruction-Texas Association of Licensed Investigators Houston, TX June 1988	24 hours
Accident Investigation/Reconstruction – Phase III, Texas A&M University System June 1988	80 hours
ABS Braking System Seminar, Texas A&M University System June 1988	16 hours
Photograph & Crush Measurements, Texas A&M University September 1988	8 hours
Demonstrative Aids, Texas A&M University December 1988	16 hours
Mastering the Dynamics of Vehicles in Motion Course, North Texas Council of Governments Regional Police Academy January 1989	24 hours
Investigation of Motorcycle Accidents, University of North Florida March 1989	40 hours
Occupant Kinematics and Injury Mechanics In Vehicle Crashes, University of North Florida April 1989	16 hours
Special Problems in Accident Reconstruction, Texas A&M University System May 1989	16 hours
Low Speed Crash Tests, Human Factors & Biomechanics, TAARS June 1992	8 hours
Commercial Vehicle Inspection/Accident Reconstruction, Texas A&M University System October 1992	40 Hours
Applied Physics in Accident Reconstruction, Texas A&M University System June 1994	40 Hours
SAE Annual Congress, topics included Biomechanics, accident damage analysis and biomechanics of impact trauma Detroit, MI February 1995	
Collision Analysis and Traffic Accident Reconstruction-Society of Accident Reconstructionists Combined Conference Charlottesville, VA August 24-26, 1995	
Biomechanics of Impact Trauma-Association for Advancement of Automotive Medicine (AAAM) Chicago, IL November 13-14, 1995	
Low Speed Crash Analysis & Advanced Accident Reconstruction-Texas Association of Accident Reconstruction Specialists TEEX Riverside Campus, Bryan, Texas January 12-13, 1996	
Gas Dragster Course 1 Driving School-Frank Hawley's Drag Racing School Gainesville, FL January 1996	

3D Computer Visualization & Injury Mechanism Analysis-Texas Association of Accident Reconstruction Specialists
TEEX Training Center-Bryan, Texas May 30-June 1, 1996

Low Impact Collisions & Chiropractic Care IASIU Conference
Tucson, AZ September 8-12, 1996

40th Annual STAPP Crash Conference Topics on Biomechanics and Injury Mechanism
Albuquerque, NM November 1996

Practical Application of Biomechanics, Low Speed Crash Tests and Analysis, Hazardous Materials at Crash Scenes & Air Bag Injury
Causation, TAARS
College Station, TX March 20-22, 1997

Presenter: Low Impact Collision Analysis and Fraud and Accident Analysis, KC SIU Crew
Overland Park, KS May 6, 1997

Conference on Biomechanics & Crash Testing-Billy Cox & Associates
Transportation Technology Center, Houston, TX July 24-26, 1997

Presenter: Low Speed Collision Analysis, 12th Annual IASIU Conference
Charlotte, NC September 14-18, 1997.

41st Annual STAPP Crash Conference, topics on biomechanics and injury mechanism
Orlando, FL November 1997

Presenter: Low Impact Collision Analysis and Fraud and Accident Analysis, Virginia IASIU
Richmond, VA May 13, 1998

The Biomechanics of Impact, Understanding the Limits of Human Tolerance-AAAM
Vancouver, BC, Canada February 6-7, 1999

World Conference on Whiplash Associated Disorders. Topics on Biomechanics and Injury Mechanism
Vancouver, BC, Canada February 8-9, 1999

Low Speed and High Speed crash testing with human volunteers, EFI Engineering Conference
Houston, TX February 24-26, 1999

SAE Annual Congress, topics included Biomechanics, accident damage analysis and biomechanics of impact trauma
Detroit, MI February 1999

Accidental Injury: Biomechanics & Prevention-University of California, San Diego School of Medicine
San Diego, CA October 23-24, 1999

43rd Annual STAPP Crash Conference, topics on biomechanics and injury mechanism
San Diego, CA October 1999

Presenter: Low Impact Collision Analysis and Fraud and Accident Analysis, 15th Annual IASIU Conference
Lake Buena Vista, FL September 10-14, 2000

44th Annual STAPP Crash Conference, topics on biomechanics and injury mechanism
Orlando, FL November 2000

Presenter: Advanced Biomechanics, 16th Annual IASIU Conference
Palm Springs, CA September 9-13, 2001

45th Annual STAPP Crash Conference, topics on biomechanics and injury mechanism
San Antonio, TX November 2001

Presenter: ARC-CSI Crash Conference, instrumentation in human subject crash testing and impact biomechanics
Seattle, WA August 18-21, 2002
CDR System Operator's Course-CSI
New Orleans, LA November 2002

Presenter: Kentucky IASIU Annual Conference, conducted human subject crash testing and analysis of SDM data
Elizabeth, IN May 19-20, 2003

Presenter: ARC-CSI Crash Conference: instrumentation in human subject crash testing and impact biomechanics
Las Vegas, NV June 9-12, 2003

Presenter: CATAIR Crash Conference: instrumentation in human subject crash testing and impact biomechanics.
Toronto, Canada August 2003

Presenter: ARC-CSI Crash Conference: instrumentation in human subject crash testing and impact biomechanics
Las Vegas, NV June 2004

CDR System Operator's Course-CSI: attendee

Irving, TX October 2005

CDR System User's Conference Course-CSI: attendee
Dallas, TX February 13-14, 2006

Presenter: ARC-CSI Crash Conference: Instrumentation in human subject crash testing and impact biomechanics.
Las Vegas, NV June 2006

CDR System User's Conference Course-CSI: attendee
Dallas, TX February 13-14, 2006

Presenter: ARC-CSI Crash Conference: Instrumentation in human subject crash testing and impact biomechanics.
Las Vegas, NV June 2006

ARC-CSI CDR System User's Conference: attendee
Houston, TX January 29-31, 2007

Presenter: ARC-CSI Crash Conference: Human subject crash testing and impact biomechanics.
Las Vegas, NV June 07, 2007

Presenter: SATAI Crash Conference: Human subject crash testing and impact biomechanics.
Phoenix, AZ July 14, 2007

Researcher: Performed instrumented car-to-car side-swipe and broadside collision testing using a Toyota Corolla, Chrysler 5th Ave and a Dodge Grand Caravan with instrumented human volunteers. Also, performed rear hitch-to-barrier and front-to-barrier tests with airbag deployment using a Toyota Corolla.
Tempe, AZ October 2007

Presenter: American Academy of Forensic Sciences: "Comparison of Acceleration Data and Human Subject Kinematics in Bumper-to-Bumper vs. Bumper-to-Hitch Low-Speed Collisions." Washington, D.C. February 21, 2008.

ARC-CSI Crash Conference: attendee
Crash testing, crash reconstruction and impact biomechanics.
Las Vegas, NV June 2008

Presenter: The Missouri Chapter of the National Society of Professional Insurance Investigators (NSPII), 2008 Advanced Insurance Seminar. "Impact Biomechanics: A Primer for the Claims Professional and Crash Test Recap and Biomechanical Implications."
St. Louis, MO September 18, 2008

Researcher: Performed instrumented front-to-rear crash testing with the Billy Cox Group Low Velocity Impact Simulator (LVIS). Conducted multiple front-to-rear, bumper-to-bumper tests with velocity change of about 3.0 mph in order to study human subject kinematics and body segment acceleration values relative to vehicle acceleration values. Also, compared crash simulator values to vehicle-to-vehicle values.
Springfield, MO November 09, 2008

CDR System Technician Course-CSI: attendee
North Las Vegas, NV December 1, 2008

CDR System Operator's Certification Course-CSI: attendee
North Las Vegas, NV December 2-5, 2008