



Tracie Eckstein Jones, ACTAR, CFEI

Transportation Practice Leader

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Background

Ms. Tracie Jones holds a B.S. in Mechanical Engineering and Psychology and served as a police officer for 20 years, where she investigated hundreds of serious and fatal vehicle collisions for the Baltimore County Police Department involving motor vehicles, commercial vehicles, motorcycles, and pedestrians. Ms. Jones is also a certified Child Seat Safety Technician, which gives her special knowledge in the inspection of child safety seats.

Her knowledge and training of human behavior have assisted in her analysis of perception-reaction time and nighttime visibility dynamics in collisions.

Ms. Jones' areas of expertise include motor vehicle crash reconstruction, motorcycle crash reconstruction, pedestrian/bicycle versus vehicle crash reconstruction, commercial vehicle crash reconstruction, Event Data Recorder analysis for passenger vehicles and heavy truck engines, seatbelt analysis, and rollover crash reconstruction. Ms. Jones has extensive training in crash scene mapping using a total station and a 3D laser mapping system. Ms. Jones is an avid motorcycle rider, which gives her unique knowledge in the investigation of motorcycle collisions and operator actions/reactions.

Ms. Jones also performs investigations for failure analysis, including piping and plumbing failures, vehicle component failures, appliance failures, and machinery failures. Ms. Jones is a certified fire investigator where she investigates the causes of fires as well as the failures of fire suppression systems.

Ms. Jones is an Adjunct Instructor for the Institute of Police Technology and Management (IPTM) at the University of North Florida, where she teaches courses in the area of crash reconstruction, including Event Data Recorder Use in Traffic Crash Reconstruction and Investigation of Motorcycle Crashes.

Finally, Ms. Jones is a certified FAA drone pilot. She has completed aerial inspections and photographs of crash scenes, crush damage profiles of vehicles, commercial properties, and residential properties where an engineer cannot safely inspect.

Professional Engagements

• Training

- Maryland Crash Reconstruction Committee – Maryland (2008-2015), Taught week-long classes for crash Reconstruction classes for Maryland Law Enforcement officers including Advanced Crash Investigation, Crash Reconstruction, Investigation of Motorcycle Crashes, Event Data Recorders, and their use in Crash Reconstruction.

• Investigations

- Catonsville, MD (2013), Investigated fatal pedestrian accident where it was determined that the driver of the vehicle was distracted by talking on a cellular phone; resulted in traffic charges for the driver.
- Randallstown, MD (2012), State of MD v. Michelle Williams; Investigated a four-vehicle, head-on collision that resulted in severe injuries to a minor child; resulted in traffic charges for at-fault driver.
- Owings Mills, MD (2012), Investigated a high-speed, head-on collision that resulted in the death of both drivers.
- Hunt Valley, MD (2008), State of MD v. Aubry Miller Jr.: Fatal hit-and-run crash reconstruction. Convicted driver of Vehicular Manslaughter; investigation also lead to the recovery of numerous stolen items from residences in Pennsylvania and Maryland.
- Towson, MD (2006), State of MD v. Lazara Dehogue: Fatal hit-and-run involved a pedestrian pushing a small child in a stroller. Located and charged female suspect; convicted of Vehicular Manslaughter and Hit and Run involving the death of a minor. Went to appeals court where it was ruled for the first time that actions after an accident can result in Manslaughter.

Forensic Engagements

• Vehicle Investigations

- Montgomery County, MD (2017), Investigated a fatal collision and the practices of the Montgomery County Police Department and Montgomery County Fire Department in relation to Traffic Incident Management. Testified as an expert in deposition.
- Panama City, FL (2016), Investigated a collision involving two school buses and a tractor-trailer. Seventy children were on the two school buses combined. Resulted in settlement for our client.
- Baltimore, MD (2015), Investigated fatal head-on collision that revealed the collision was staged. Resulted in 2nd-degree murder charges for one of the drivers.

• Inspections

- Baltimore, MD (2018), Used drone to inspect the roofs of three large church building for damage.

Professional Experience

• Rimkus

2015 – Present

- Transportation Practice Leader
Provides vehicle crash analysis to determine cause and critical factors affecting the dynamics of a collision. Performs inspections of motor vehicle components, commercial vehicle components, motorcycle components, seatbelts, and child safety seats. Performs analysis on plumbing systems, mechanical machines and parts, and products to determine the cause of the failure.

- **Vector Collision Analysis** **2009 – 2015**
 - Senior Crash Reconstructionist
Provided crash reconstruction analysis for law firms, insurance carriers, and private citizens.
- **Baltimore County Police Department** **1995 – 2015**
 - Police Officer/Crash Reconstructionist
Responded to fatal, serious injury, and departmental vehicle collisions. Processed crash scenes, photographed crash scenes, collected evidence, interviewed witnesses, vehicle operators, and suspects, reconstructed collisions, and prepared full crash reconstruction reports for review by the Baltimore County State's Attorney's Office. Provided training in crash investigation, crash reconstruction, motorcycle crash investigation, pedestrian/bicycle crash investigation, and analysis of event data recorders.

Education and Certifications

- **Mechanical Engineering, B.S.:** University of Maryland, Baltimore County
- **Psychology, B.S.:** Towson University
- **Traffic Accident Reconstructionist:** Accreditation Commission for Traffic Accident Reconstruction, ACTAR #1850
- **Certified Fire and Explosion Investigator (CFEI)**
- **Maryland Police Training Commission**
- **Child Safety Seat Technician**
- **Bosch Certified Crash Data Retrieval Technician and Analyst**
- **LIDAR, RADAR, Speed Chronograph Certifications**
- **Certified Traffic Control Flagger**
- **Certified Vehicle Systems Forensic Examiner**
- **Certified Vehicle Systems Forensic Technician**
- **FAA Certified Remote Pilot**
- **Memberships:** Tau Beta Pi, Engineering Honors Society; Society of Automotive Engineers; Society of Women Engineers

Continuing Education

- **Baltimore County Police Department:** Search and Seizure Seminar (2005); Vehicle Crash Analysis (2001); On-Scene Crash Investigation (2000); Advanced Crash Investigation (2000); Detecting the Drugged Driver (2000); Preliminary Breath Test/Horizontal Gaze Nystagmus (1997)
- **NAPARS:** EDR Symposium (2024); Tire Analysis Seminar (2002); Scene Photography/Emergency Lights Seminar (2001)
- **Pennsylvania State Police:** Pennsylvania State Police Reconstruction Seminar (2014); Pennsylvania State Police Reconstruction Seminar (2013); Pennsylvania State Police Reconstruction Seminar (2012); Pennsylvania State Police Reconstruction Seminar (2011); Pennsylvania State Police Reconstruction Seminar (2010); Pennsylvania State Police Reconstruction Seminar (2008); Pennsylvania State Police Reconstruction Seminar (2007); Pennsylvania State Police Reconstruction Seminar (2006); Pennsylvania State Police Reconstruction Seminar (2005); AoBRD for Commercial Motor Vehicles (2005); Pennsylvania State Police Reconstruction Seminar (2004); Reconstruction Seminar (2003); Motorcycle Crash Investigation (2003)
- **MCRC:** Commercial Vehicle Reconstruction (2010); Crash Reconstruction Instructor Development (2009); Motorcycle Reconstruction (2008); Crush Energy Analysis (2007)

- **NATARI:** Back to Basics Seminar (2008); Crash Zone Seminar (2005)
- **Collision Safety Institute:** ARC-CSI Crash Conference (2009); Crash Data Retrieval Analyst Certification (2009); Crash Data Retrieval System Operator's Certification Course (2004)
- **Institute of Police Technology and Management:** Special Problems in Crash Reconstruction (2018); Special Problems in Crash Reconstruction (2015); Special Problems in Crash Reconstruction (2014); Heavy Vehicle ECM Use in Traffic Accident Reconstruction (2014); Special Problems in Crash Reconstruction (2013); Special Problems in Crash Reconstruction (2012); Event Data Recorders in Crash Reconstruction (2010); Special Problems in Crash Reconstruction (2011); Bosch CDR Technician Tool Online Training (2013); Applied Physics for Traffic Investigators (2006)
- **Maryland Kids in Safety Seats:** Child Passenger Safety Seat Technician Update (2013)Transporting Children with Special Health Care Needs (2010)
- **Other Courses:** Teel Technologies Vehicle Forensic Course (2023); Virtual Crash Live Training (2022); Berla Vehicle system Forensics Course (2021); Using Microsoft Excel for Traffic Crash Reconstruction (2021); NAFL Fire Investigation Training Program (2020); HVEDR Use in Traffic Crash Investigation (2020); Drone Pilot School (2017); World Reconstruction Expo (2016); HVE Forum, Engineering Dynamics (2016); Forensic Competency Training of Leica Scan Station and Cyclone Point Cloud, Leica Geosystems (2015); Hexagon International Conference, Hexagon Global Network (2015); Using Microsoft Excel for Traffic Crash Reconstruction, Rich Consulting, LLC (2014); Human Factors in Crash Investigation, Virginia Commonwealth University Transportation Safety Training Center (2010); ARAS 360 Animation Training, ARAS 360 (2011); NHTSA Instructor Facilitator School, NHTSA (2009); Child Safety Seat Technician/Inspection, Safe Kids (2009); Commercial Vehicle Reconstruction, Advantage Fleet Services (2007); Laser Mapping Training, LTI, Inc. (2006); Crash Data Retrieval System Introduction, Dynamic Science (2002)Crash Reconstruction, Maryland State Police (2001); Pedestrian/Bicycle Crash Reconstruction, TEEX (2001)

Publications

- **"Motorcycle Modifications and Its Effect on Reconstruction,"** Special Problems in Crash Reconstruction, IPTM (presentation), May 2013
- **"Motorcycle Modifications and Its Effect on Reconstruction,"** Pennsylvania State Police Crash Reconstruction Seminar (presentation), September 2013
- **"Post-Crash Forensic Inspections of Child Safety Seats,"** Special Problems in Crash Reconstruction, IPTM (presentation), April 2014
- **"Using Smart Phone Applications in Crash Reconstruction,"** Pennsylvania State Police Crash Reconstruction Seminar (presentation), September 2014
- **"The Use of 3D Laser Scanners in Crash Reconstruction,"** Hexagon International Conference, Hexagon Global Network (presentation), June 2015
- **"Perception/Reaction Time under Distractions,"** WREX 2016 (presentation), May 2016
- **"Vehicle Occupant Kinematics,"** Maryland Institute for Emergency Medical Services Systems, February 2021.