



James Mulkey, ACTAR

Senior Consultant

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Background

Mr. James Mulkey is an accredited Accident Reconstructionist with the Accreditation Commission for Traffic Accident Reconstruction (ACTAR #2397) with over 29 years of accident investigation and reconstruction experience.

He worked in the law enforcement profession in both the United States Army (1987-1995) and with the Missouri State Highway Patrol (1996-2022). His duties consisted of general road patrol, accident investigation, and vehicle accident reconstruction.

Mr. Mulkey was an Assistant Zone Supervisor and Emergency Vehicle Operations Instructor for the Missouri State Highway Patrol. He was a member of the Missouri State Highway Patrol Major Crash Investigation Unit for over 12 years and conducted or assisted in thousands of crash investigations and reconstructions. Those crashes involved automobiles, motorcycles, pedestrians, bicycles, ATVs, UTVs, commercial motor vehicles, and farm machinery. Mr. Mulkey is certified in imaging, preserving, and analyzing data contained in a vehicle's event data recorder.

Professional Engagements

• Vehicle Accident Reconstruction

- Traffic Accident Investigations – U.S. Army Fort Leonard Wood, Missouri (1993-1995), Responsible for patrol, enforcement activities, and traffic accident investigations.
- Traffic Accident Investigations – Missouri Highway Patrol (1996-2010), Responsible for traffic accident investigations, including cause and aggravating/mitigating factors throughout the state.
- Technical Accident Reconstructionist – Missouri Highway Patrol (2010-2022), Responsible for vehicle accident reconstructions with the Major Crash Investigation Unit.

Forensic Engagements

• Vehicle Accident Reconstruction

- Over 340 Traffic crash reconstructions in Missouri.
- Over 840 Traffic crash investigations in Missouri.
- Franklin County, Missouri (2015), Fatality crash - Commercial vehicle struck passenger car head-on (daytime crash). Used event data recorder downloads and damage assessment to determine that a rear impact from

a third vehicle forced the passenger car across the center into the path of the commercial vehicle. Calculated minimum speed of the commercial vehicle.

- St. Charles County, Missouri (2017), Fatality crash - Commercial vehicle struck a disabled passenger vehicle in the roadway during darkness. Determined minimum speed of the commercial vehicle, hazard recognition distance for the driver of the commercial vehicle, and evaluated driver's ability to avoid the crash.
- Audrain County, Missouri (2018), Fatality crash - Passenger car struck another passenger car head-on before striking a commercial vehicle. Used event data recorder download, mathematical calculations, and physical evidence to determine the passenger car driver's responsibility.
- Franklin County, Missouri (2019), Quadruple fatality – Passenger car crossed centerline and struck commercial vehicle head-on. Used small, unmanned aircraft system (drone) to document crash scene evidence. Used event data recorder downloads, physical evidence, and witness statements to determine crash causation and pre/post-crash vehicle speeds.
- Lincoln County, Missouri (2020), Fatality crash – Passenger car struck pedestrian in crosswalk. Documented physical evidence using drone. Determined vehicle speed range through video analysis.
- St. Louis County, Missouri (2021), Fatality crash - Commercial vehicle struck commercial vehicle stopped in traffic. Documented evidence using drone. Used physical evidence, damage assessment, event data recorder data, video analysis, and witness statements to determine the cause of the crash.
- St. Louis County, Missouri (2022), Fatality crash – Commercial vehicle struck passenger vehicle. Documented physical evidence with drone and real-time kinetic global positioning system (Sokkia GCX3). Used physical evidence, damage assessment, and video analysis to determine the cause of the crash.

Professional Experience

• Rimkus

2023 – Present

- Senior Consultant

Responsibilities include the investigation, analysis, and reconstruction of vehicle collisions, including single- and multiple-vehicle collisions involving automobiles, commercial vehicles, motorcycles, bicycles, and pedestrians. Services include damage analysis, speeds from damage (energy), coefficient of friction of the roadway, time and distance analysis and relationships, lamp analysis, occupant kinematics, vehicle dynamics, and perception and response along with avoidability. Provide collision scene evidence analysis, forensic mapping, and scanning of collision sites and vehicles. The preparation and presentation of demonstrative charts and diagrams. Imaging and analysis of EDR data.

• Missouri State Highway Patrol

1996 – 2022

- Vehicle Accident Reconstructionist

The primary mission of the Major Crash Investigation Unit is to investigate and provide detailed reporting of serious crashes involving fatalities, commercial motor vehicles, and crashes resulting in felony criminal charges. The crash team members also assist other law enforcement agencies with serious traffic crash investigations and critical crime scene mapping. The team members utilize Robotic Total Stations, RTK GPS, and drone technology, which allows for the accurate and fair depiction of crash and crime scenes diagrammed to scale. Each officer is trained in the human, mechanical, and environmental factors of traffic crash investigation and reconstruction. They are considered court experts in the field of traffic crash investigation and reconstruction.

- Trooper/Corporal/Sergeant

Responsibilities included general patrol, investigation of traffic accidents, criminal patrol, and assistance to the motoring public. Additional duties included the administration of Zone Personnel including the review and direct supervision of traffic accidents, criminal patrol, arrests, scheduling, complaint resolution, and administrative duties.

Education and Certifications

- **Criminal Justice Administration, B.A.:** Columbia College, Columbia, Missouri (1996)
- **Accredited Traffic Accident Reconstructionist:** Accreditation Commission for Traffic Accident Reconstruction (ACTAR #2397)
- **CDR System Technician/Data Analysis:** Institute of Police Technology and Management (2011)
- **FAA Part 107 Remote Pilot License**
- **Memberships:** Illinois Association of Technical Accident Investigators (IATAI), Midwest Association of Technical Accident Investigators (MATAI)

Continuing Education

- Hundreds of classes focused on law enforcement, traffic crash investigation, management, security, and rules and regulations:
- **Forensic Training Group:** Pedestrian/Cyclist Crash Investigation (2020), Virtual Crash Simulation Software (2021), Heavy Vehicle Event Data Recorder Use in Crash Investigation (2022)
- **Northwestern University:** Heavy Vehicle Crash Reconstruction (2013), Advanced Crash Reconstruction utilizing Human Factors (2017)
- **Aerial Matrix:** Small unmanned aircraft systems (sUAS) use in crash investigation (2018)
- **Institute of Police Technology and Management or Missouri State Highway Patrol LE Academy:** Advanced Accident Investigation (1999), Crash Reconstruction (2000), Physics for Crash Investigators (2003), Motorcycle/Pedestrian Crash Investigation (2012), Human Factors in Crash Reconstruction (2012), Tire Technology, Forensics and Tire Failure Analysis Clinic (2012), Occupant Kinematics for the Crash Reconstructionist (2012), Roadway Friction/Time Distance Analysis for Heavy Trucks (2013), Energy Methods and Damage Analysis in Crash Reconstruction (2014), Post-Crash Commercial Motor Vehicle Inspection (Oklahoma Department of Public Safety – 2015)
- **University of Tulsa:** Digital Forensics of Heavy Vehicle Event Data Recorders