

Curriculum Vitae

Will Partenheimer, CDS, ACTAR

Profession: Mr. Partenheimer has over 22 years of experience in accident reconstruction, motor carrier compliance, fleet safety, and training for the transportation industry. He holds full accreditation in accident reconstruction from the Accreditation Commission for Traffic Accident Reconstruction (ACTAR). Will is a Certified Director of Safety (CDS) by the North America Transportation Management Institute (NATMI). He is a certified trainer for courses offered by NATMI as well. Will specializes in commercial vehicle crashes, inspection of braking systems, and is experienced in the recovery and analysis of electronic data.

Testimony: Mr. Partenheimer has been qualified as an expert in more than 50 trials and has testified more than 100 times in depositions. He has been qualified as an expert in multiple courts in eleven states and the District of Columbia.

Certifications: Certificate of Full Accreditation from ACTAR – Registration #1085
Certified Director of Safety, NATMI - CDS #1770
Certified Instructor for Courses Offered by NATMI

Education: *Georgia State University, Atlanta, GA*
Georgia Peace Officers Standards and Training Council, Atlanta, GA
DeKalb County Police Academy, Decatur, GA
GA Public Safety Training Center, Forsyth, GA
Fulton County Police Academy, Atlanta, GA

Experience: *Bloomberg Consulting – Nashville, TN*
2017 to present - Accident Reconstructionist & Fleet Safety Specialist

Forcon International - Richmond, VA
1999 to 2017 - Accident Reconstructionist & Fleet Safety Specialist

DeKalb County Police Department, Decatur, GA
1987 to 1999 – Police Officer, Detective, Accident Reconstructionist

Professional Associations:

- ◆ Southeastern Accident Reconstruction Society - Charter Member
- ◆ Certified Forensic Mapping Specialist
- ◆ National Association of Professional Accident Reconstruction Specialists
- ◆ National Association of Traffic Accident Reconstructionists and Investigators
- ◆ National Safety Council
- ◆ North American Transportation Management Institute - Member and Certified Instructor

Training:

- ◆ **Advanced Traffic Law**, *Fulton County Police Academy*, Fulton County, GA, 10/90
- ◆ **Crime Scene Processing**, *DeKalb County Police Academy*, Lithonia, GA, 4/93
- ◆ **On Scene Accident Investigation I and II**, *Georgia Public Safety Training Center*, Forsyth, GA, 10/94, 3/95
- ◆ **Traffic Accident Reconstruction I, II, III, IV and V**, *Georgia Public Safety Training Center*, Forsyth, GA, 8/96, 10/96, 2/97, 3/97, 5/97
- ◆ **Quick Map Laser Mapping**, *Roswell Police Academy*, Roswell, GA, 10/97
- ◆ **Forensic Mapping**, *DeKalb County Police Academy*, Lithonia, GA, 4/99
- ◆ **Automated Calculations for Traffic Accident Reconstruction**, *Georgia Public Safety Training Center*, Forsyth, GA, 6/99
- ◆ **Geodimeter Robotic Survey Systems**, Richmond, VA, 2/00
- ◆ **Special Problems in Traffic Crash Reconstruction**, *Institute of Police Technology and Management, University of North Florida*, Jacksonville, FL, 5/00
- ◆ **Advanced Air Brake Systems** - Advanced concepts of commercial vehicle air brake systems including design, selection of components for maximum efficiency and safety, extensive simulation and analysis of component and system failures. *HalDEX Heavy Duty Brake Systems*, Kansas City, MO, 6/00
- ◆ **EDC Accident Reconstruction** - Review of program history, scope and capabilities, including discussion of precursor programs such as Crash, and Crash III. Orientation to the windows based HVE-2D environment. Program training includes detailed study of the analytical procedures and logic contained with the program to perform the calculations of damage based Delta-V, separation velocities, common velocity check, trajectory simulation and linear momentum. Course included case studies, proper data analysis, management of diagnostic messages, and presentation of data. *Engineering Dynamics Corp.*, Richmond, VA, 2/01
- ◆ **HVE 3-D/Accident Reconstruction** - Program training includes the HVE 3-D components and file system, setting up and executing multiple events, a detailed study of simulation sequences, creating a 3-D environment with friction zones, overlays and material attributes. The course included case studies, proper data analysis, management of diagnostic messages and presentation of data. *Engineering Dynamics Corp.*, Richmond, VA, 6/01
- ◆ **Advanced Collision Reconstruction** - Advanced concepts of momentum application using vector diagrams, methods for calculating Delta-V, PDOF, and an overview of the crush damage to kinetic energy relationship. *TEEX Law Enforcement & Security Training Division, Texas A&M University*, Mesquite, TX, 6/01

- ◆ **Caterpillar Electronic Engine Controls** - Factory training on use of Caterpillar’s “Electronic Technician” computer program for data retrieval from Caterpillar diesel engine electronic control modules. Modes of training included speed and RPM calibration, all engine parameters, trip parameters, including the quick brake function, programmable features, security features, and remote diagnostic capabilities. *Caterpillar Power Systems, Richmond, VA, 4/02*
- ◆ **Heavy Vehicle Crash Reconstruction** - Detailed instruction to demonstrate various braking and acceleration characteristics of heavy vehicles, studies showing how various analytic techniques would be applied in heavy vehicle crashes. Heavy vehicle inspection, skidding, and off-tracking tests conducted at Bosch Automotive Proving Ground in New Carlisle, IN. *Northwestern University Center for Public Safety, Evanston, IL, 5/02*
- ◆ **Detroit Diesel ProDriver Reports and DDEC Data** - Factory training for certification on extracting and analyzing data from Detroit Diesel electronic engine control modules and ProDriver data recorders. Training included detailed data on functions, parameters, and capabilities both of current models and new MBE engines. *Detroit Diesel Corporation Training Center, Detroit, MI, 7/02*
- ◆ **Crash Data Recorder User Certification Course** - Software manufacturer sponsored training course for users of CDR tool kit. The training covered system operational parameters, data formats, uses and limitations. The training resulted in certification of the operator. *Institute of Police Technology and Management, University of North Florida, Jacksonville, FL, 11/02*
- ◆ **MGM Brakes Brake Tech Service Course** - Factory training and certification course for repair and maintenance of MGM air brake products for commercial vehicles and heavy equipment. *MGM, a division of Indian Head Industries, Inc., Charlotte, NC, 12/02*
- ◆ **Complying with Federal Motor Carrier Safety Regulations** - *Traffic Safety Consultants, Inc., Ashland, VA, 3/03*
- ◆ **Supervisor Training for “Reasonable Suspicion Testing”** as required under Federal Motor Carrier Safety Regulation Section 382.603 for drug and alcohol usage. *Traffic Safety Consultants, Inc., Ashland, VA, 3/03*
- ◆ **Investigating Human Fatigue Factors in Transportation Accidents** - Provided knowledge and skills to examine the role of fatigue in an accident to determine contributor and/or causation factors. Topics included the physiological basis of human fatigue, circadian disruptions that can lead to fatigue, sleep disorders, operationally relevant questions used to determine the role of fatigue in accidents, and analyzing and interpreting data. *National Transportation Board Safety Board Academy, Ashburn, VA, 9/04*
- ◆ **Motor Fleet Safety Principals and Practices, Training for the Safety Supervisor** - Course work included safety as a management function, commercial vehicle driver selection and testing, designing and implementing training programs for safety, communications with employees to improve safety functions, supervision of drivers and employees from the safety perspective, accident prevention and investigation, regulatory compliance, hazardous material transportation and security, *North American Transportation Management Institute (NATMI) 2004*

- ◆ **Managing Motor Fleet Safety Programs/Training for the Safety Director** - Course work included the role of the Safety Director in determining needs and setting overall policy, implementation of safety policy and programs, using supervision and communication to reinforce management commitment to safety, monitoring safety programs to determine if objectives are being met, The quality management approach applied to safety, use of statistical control models to evaluate performance, analysis of accident trends and identification of root causes for the purpose of safety training and accident prevention, management of employee injury/illness programs in the transportation industry, *North American Transportation Management Institute (NATMI) 2004*
- ◆ **Cummins Insite Qualification Course** - Factory training and qualification on use of Cummins Insite computer program for data retrieval from Cummins diesel engine electronic control modules. Training included detailed data on functions, parameters and capabilities of Cummins ECMs. Training resulted in certification by Cummins. *Cummins Atlantic Training Center, Charlotte, NC, 8/05*
- ◆ **Tractor Trailer Side Underride Analysis** – History and derivation of the underride speed equation, review of data points, review of previous crash tests, field tests consisting of live crashes, *Midwest Institute for Transportation Safety, Indianapolis, IN, 8/05*
- ◆ **Complying with Federal Motor Carrier Safety Regulations** - Update of the changes of the Federal Motor Carrier Safety Regulations, *Transportation Risk Management Services, LLC, Williamsburg, VA, 2/06*
- ◆ **Photo Documentation Series** - Technical photography covering principles of digital imaging, advanced accident site photography, photo documentation of traumatic injuries including advanced techniques of macro-photography, and digital image processing including a discussion of the accepted protocol for authenticating digital images for use as documentary evidence, *National Transportation Safety Board Academy, Ashburn, VA, 5/06*
- ◆ **Tires 101** - Classroom training showing the causation of tire damage, tread wear, tire inflation, high speed blowouts, tread separations and miss matched tires. Hands on inspections of tires showing each type of damage and training for the proper documentation of the physical evidence to determine possible causes of a tire failure. Behind the wheel training demonstrating how to maintain control during a high speed blow out, the importance of proper tire pressure on wet surfaces, and the proper location of new tires when changing only two tires. *Michelin Americas Laurens Proving Grounds, Laurens, SC, 7/06*
- ◆ **Vista FX3 Accident Reconstruction and Animation Software Training** - Training on the capabilities of the Vista FX3 release of the Visual Statement Software. Training included use as an advanced diagraming tool, Vista Crash Analysis, Real Motion 2D and 3D Animations of analysis data, Photo FX module which allows placement and scaling of photos from outside sources into the work product, Hawkeye Photo Rectification module which supports photo analysis applications, Simulation module and extensive data base of data needed for various types of analysis - *Visual Statements, Inc., Richmond, VA 5/07*
- ◆ **North American Transportation Management Instructor Seminar** - Certified as an instructor for NATMI courses, Denver, CO, 8/07

- ◆ **2007 Highway Vehicle Event Data Recorder Symposium** - Topics included legal issues, EDR standards update, data validity issues, global initiatives and perspectives, EDR case studies, commercial vehicle applications - sponsored by SAE and NTSB - *National Transportation Safety Board Academy, Ashburn, VA, 9/07*
- ◆ **2008 CDR User's Conference** - Topics included the newest Bosch software release including Ford PCM, Chrysler and the new GM Rollover Sensor. Presentations of real-world applications of CDR Data using actual cases and case-studies and the newest research in CDR; Hands on demonstrations of the Ford PCM and the latest changes in the CDR system. Houston, TX, 1/08
- ◆ **Solis Pro Diagnostic Tool Factory Training** - Capabilities and operation of Solis Pro including both factory issued video training and live training with factory trainers - *Richmond Technical Center, Richmond, VA, 3/08*
- ◆ **2009 Combined Annual Conference on Heavy Vehicle Crash Reconstruction** - Hosted by the National Association of Accident Reconstruction Specialists, Topics included commercial vehicle ECM data, heavy vehicle crash testing, airbrake adjustment vs stopping ability, using ECM reports for HOS compliance and analysis of crashes with large mass differences using conservation of momentum, Ocean City, MD, 10/09
- ◆ **Forensic Mapping** - Presented by *The Professional Society of Forensic Mapping*. Topics included EDM I trig functions with applications on how the EDM I measures angles/distances, Forensic Mapping protocols, proper operation of FM equipment, mapping techniques, examples of misapplication of FM and aerial photographs, Ocean City, MD, 10/10
- ◆ **2010 Combined Annual Conference on Trailer Underride Collision Reconstruction** - Hosted by *Maryland Association of Traffic Accident Investigators*. Topics included Underride crash testing, Side Underride Analysis, Vision and Vehicle Headlight Optics, Low Light Forensic Photography, Commercial Vehicle Conspicuity Requirements, Commercial Vehicle Rollovers, and Investigating Sudden Acceleration Incidents and Crashes, Ocean City, MD, 10/10
- ◆ **2011 CDR User's Conference** - Topics included the newest Bosch software release, live crash testing, advanced techniques for data extraction, and use of CSVPro 2011. Presentations on issues relating to Chrysler Non-Deployment CDR Data, Heavy Vehicle ECM File Preservation, GPS Navigation Unit Data, Legal Issues with CDR Data and CDR Past, Present and Future Developments. Houston, TX, 1/11
- ◆ **Event Data Recorder Use in Traffic Crash Reconstruction** - Comprehensive course on use of the Bosch[®] Crash Data Retrieval (CDR) system hardware and software to image crash data from supported car and light truck event data recorders (EDR's) and to analyze the downloaded data. *Institute of Police Technology and Management, University of North Florida, Henrico, VA, 1/13*
- ◆ **SERVICEMAXX Engine Diagnostic Software** - Navistar Factory Training to utilize the SERVICEMAXX Engine Diagnostic Software for all MAXXFORCE and International Engines, *Trans Authority International, Ashland, VA, 7/13*

- ◆ **FARO X330 3D Laser Scanner Training** - Factory training and testing resulting in operator certification. Topics included hardware characteristics, standard operating procedure (SOP), laser phase-based measurement details, project planning and strategies including precision verification, scanner settings for best resolution and quality, target and target-free based scanning techniques, working with Scene software, management of large amounts of scan data using approaches such as cloud to cloud registration, available types of data visualization and presentation, creating 3D color projects, importing projects into other formats and software, creating WebShare2Go content from the scan data captured. *FARO Technologies Inc.*, 7/14
- ◆ **Pedestrian/Bicycle Crash Investigation** – Comprehensive course addressing the special dynamics involved in pedestrian and bicycle traffic crashes. Topics included perception/reaction times, victim injury analysis, environmental factors and human factors. Practical exercises and crash testing were conducted. *Institute of Police Technology and Management, University of North Florida, Jacksonville, FL*, 04/16
- ◆ **Accessing and Interpreting Heavy Vehicle Event Data Recorders** – Training in the various vehicle systems and triggering events in HVEDR that may provide data useful in accident reconstruction, methodologies for accessing and imaging data, properly interpreting the data and understanding the limitations of the data. *Society of Automotive Engineers, Charlotte, NC*, 05/16
- ◆ **Event Data Recorder in Traffic Crash Reconstruction: Update and Advanced Analysis Techniques** – Training on the latest vehicle updates to the Bosch[®] Crash Data Retrieval (CDR) system, Hyundai/Kia systems and advanced analysis techniques for the extracted data. *Ruth Consulting, Navarre, FL*, 04/18

Teaching Activities:

- ◆ Going Beyond Safety with Video. *SmartDrive Customer Conference, Dallas, TX* 06/17
- ◆ Going Beyond Safety with Video. *SmartDrive Customer Conference, Atlanta, GA* 05/17
- ◆ Motor Fleet Accident Investigation. *FedEx Freight, Conley, GA*, 03/15
- ◆ Advanced Accident Investigation. *AAA Cooper Transportation, NATMI, Orlando, FL*, 10/14
- ◆ Advanced Accident Investigation. *American Trucking Association Safety Management Council, 10/14, NATMI, Orlando, FL*, 10/14
- ◆ Motor Fleet Accident Investigation. *North Carolina Trucking Association, Greensboro, NC*, 12/12
- ◆ Advanced Accident Investigation. *Florida Trucking Association/University of Central Florida - Institute for Simulation and Training, NATMI, Orlando, FL*, 4/12
- ◆ Emerging Issues in Crash Reconstruction Technology. *Tennessee Trucking Association, Buchanan, TN* 10/12
- ◆ Advanced Accident Investigation. *Florida Trucking Association/University of Central Florida - Institute for Simulation and Training, NATMI, Orlando, FL*, 4/12
- ◆ Motor Fleet Accident Investigation. *Florida Trucking Association/University of Central Florida - Institute for Simulation and Training, NATMI, Orlando, FL*, 4/12
- ◆ The Aftermath of an Accident. *Florida Trucking Association, Tampa, FL*, 1/12
- ◆ Transportation Safety: CSA 2010 and Beyond. *Memphis Traffic Club, Memphis, TN*, 11/11

- ◆ New Technologies in Crash Reconstruction 2011. *Risk Management and Insurance Studies Center, Virginia Commonwealth University School of Business*, 2/1
- ◆ Motor Fleet Accident Investigation. *Maine Motor Trucking Association*, Augusta, ME, NATMI, 9/10
- ◆ Commercial Vehicle / Fleet Safety. *ProBuild, Inc.*, NY, 2008
- ◆ Crash Scene Management Techniques. *Association of Property & Casualty Claims Professionals CEU Seminar for Direct Adjusting Claims Professionals*, Tampa, FL, 5/07
- ◆ Commercial Vehicle / Fleet Safety. *Strober, Inc.*, VA, MD, DE, 2007
- ◆ Commercial Vehicle / Fleet Safety. *The Contractor Yard*, VA, WV, MD, TN, NC, SC, FL 2006, 2007
- ◆ Commercial Vehicle Accident Reconstruction. *Alabama Trucking Association's 68th Annual Convention - Building for Trucking's Future*, Destin, FL, 5/06
- ◆ Commercial Vehicle / Fleet Safety. *Moores Lumber Co.*, NY, VA, WV, PA, MD, TN, NC, 10/01-1/02, 10/02-2/03
- ◆ Diesel Engine Electronic Control Modules. *Alabama Trucking Association Safety & Maintenance Management Council (Birmingham Chapter)*, Bessemer, AL, 1/06
- ◆ Diesel Engine Electronic Control Modules. *Alabama Trucking Association Safety & Maintenance Management Council (Wiregrass Chapter)*, Troy, AL, 11/05
- ◆ Overview of Accident Reconstruction. *State Farm Insurance Co.*, Richmond, VA, 7/04

Publications:

- ◆ Coauthor: "Use of Electronic Data by Transportation Safety Professionals", published in the 2008 Summer Edition of *Guardrail Magazine*, North American Transportation Management Institute
- ◆ Coauthor: "Use of Electronic Data in Accident Reconstruction", published in the 2007 Summer Edition of *Georgia Defense Lawyer Magazine*
- ◆ Coauthor: "Use of Electronic Data in Accident Reconstruction", published in *The Recon Advisor*, Accident Reconstruction Edition, Issue 1, 4/07