

news of engineering forensics

MDE Inc.

Accident Documentation

by Paul J. Moore, P.E.

Accident Reconstruction (AR) consultation is widely utilized by both insurance companies and attorneys in order to determine what transpired during a traffic accident. Accidents can vary from relatively low-speed collisions to major collisions, involving substantial injury and/or property loss.

In many cases, an AR expert, such as those at MDE, may not be retained until months or years after an accident. When this occurs, the AR expert is often presented with accident documentation that was compiled by insurance adjusters near the time of the collision. Accident documentation can include, among other



things, witness statements, scene photographs, vehicle photographs, and collision diagrams. After several months or years, the vehicles involved in the collision frequently are no longer available and the memories of accident participants and witnesses are not as fresh. Accident sites can change over time.

Therefore, if it appears that there may be contradictory or disputed facts about the collision, an AR expert should be hired as soon as possible in the accident follow-up process. If an expert is not hired soon after the collision, it is especially important that documentation that may later be provided to the AR expert be of the highest possible quality.

Witness statements are often taken by insurance adjusters, and may be done through a recorded telephone statement. These statements can be taken not only from the insured,

but also from the other parties involved in the collision. The statements are usually obtained very soon after the collision, when the events are still fresh in the mind of the collision participants/witnesses. Transcripts of these statements can then be provided to AR experts months or years later.

While these recorded statements are helpful, they are often not as comprehensive or detailed as they could be. They will usually include general details of the collision, but are sometimes lacking in specific details that can

be of great help to a future AR case. If specific details are obtained at the time of the collision, it will help to "lock in" the statement provided by the participant/witness when their recollection is still fresh.

One instance where statements need to be detailed is in the analysis of "low-speed" collisions, such as rear-end collision. Often, the driver of the rear vehicle in a rear-end collision will simply say that he/she wasn't paying attention, and the vehicle simply struck the rear of the front vehicle. This kind of account, however, may lack important details that may be of use to an AR expert. For example, it is not uncommon for a driver to be distracted in the vehicle and relax pressure on the brake pedal. The car can roll forward and collide with the vehicle in front. If this background information is passed onto the AR expert, tests can be performed to determine the impact speed of the rear vehicle with relatively high precision and accuracy.

A second instance where very detailed information is needed relates to a collision at an intersection. Suppose one vehicle turns in front of another at an intersection. The drivers may relate some aspects of the collision, but still leave out important details. If a driver started from a stop, did the driver accelerate slowly or quickly? How far ahead was the nearest vehicle? Was the traffic heavy or light? Were there any distractions in the vehicle such as a talkative front passenger, stereo, cell phone, etc? Was the impacting vehicle equipped with ABS? At what point did

Upcoming Seminars

MDE professionals are scheduled to speak at the following courses / seminars:

- 12/7/04, Noel Putaansuu, CFEI & Michael M. Fitz, P.E., will be presenting "Fire, Forensics and Failure Analysis" at the Washington Athletic Club, Seattle, Washington for the Marine Insurance Association of Seattle.
- 2/10/05, Susan Evans, CIH, CSP, P.E. will be presenting "Drips, Runs and Errors" (otherwise known as Water Infiltration, Mold Colonization and Construction Defects) at the Oregon Construction Law Conference, in Portland, Oregon, sponsored by the Seminar Group.

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continued on other side

continued from other side

you perceive the other vehicle as a hazard?

Other details that need to be noted for accidents needing reconstruction include: Did the person brake prior to the collision? Did they swerve prior to the collision? How fast were they going? Were there any skidmarks? Describe in detail where the vehicles came to rest after the collision. How did the occupants move inside the vehicle during the collision? Did the police take photographs? These types of questions need to be asked in a recorded statement. At some point, an AR expert may be sitting at a desk analyzing a collision and trying to decide how fast one car may have accelerated from a stop, or how fast a person may have reacted to a hazard. It is helpful for the expert to have pertinent background information to assist in the analysis.

Many of the questions previously mentioned can also be asked of the police officer who responded to the collision, whether or not a report was taken. If the collision was recent and an officer responded but no report was taken, the police department should be able to identify the responding officer. There is no reason why an adjuster cannot interview the officer to get pertinent observations the officer may have made. If a report was taken, the adjuster can obtain the report, then contact the reporting officer for any detailed follow-up questions. Other situations, such as pedestrian collisions and bicycle collisions may have different kinds of details that should be noted.

Trained investigators and the accident reconstruction experts at MDE are experienced in obtaining and documenting the details needed to support reconstruction, insurance claims and litigation. MDE has developed comprehensive lists of typical interview questions to ask participants, witnesses and police

officers. We would be pleased to share these with you and conduct an on-site seminar giving the opportunity for direct learning and interaction. Please contact Paul Moore or Vern Goodwin at MDE to schedule a talk at your facility.

"Bargain" Analyses- Do They Really Save Money?

by Keith G. Cline, P.E.

There is a lot riding on the analysis when an insurance claim involves a third party to evaluate an appliance or component to determine if a defect in design, manufacture or installation is the root cause for the failure. There are companies that offer failure analysis services for what appears to be much lower cost than MDE, but the services vs. cost should be closely reviewed to see if it is really a bargain. The decision to pursue subrogation and commit considerable effort and expense must be based upon a foundation of a technically sound analysis.

MDE routinely receives cases that were initiated with an analysis by another company and occasionally we find there have been generalizations, oversights and simplifications in the original examination. Simply put, the appropriate time, expertise and effort was not put into the original determination that subrogation was a viable option. At that point, MDE typically has to duplicate the entire analysis or bear the bad news that all or part of the case is technically unsupportable.

There are companies that offer failure analysis services for no fee contingent upon receiving a portion of any settlement or judgments that may arise from the claim. Even if you do not use such a service, you should be aware that the

opposing parties can, will and should use that to challenge the integrity of the analysis.

Few other companies can offer the range and depth of experience and capabilities that MDE offers. Every analysis carries with it decades of combined experience of eminently capable professional engineers and technical professionals. The report produced will be the product not only of the principal investigator but also of a thorough review from another MDE professional.

MDE brings an unmatched reputation of integrity to every analysis we perform; whether it's a \$10,000 water damage claim or a multimillion dollar fire. The best service we can provide is providing the best available analysis using sound science and accepted methodologies to "call it like we see it".

Fire Dynamic Simulations

by Noel Putaansuu, CFEI

Fire Dynamic Simulations (FDS) fire models are 3D simulations of fires. The FDS program is developed by the US government National Institute of Standards and Technology (NIST). It is a highly flexible tool for the 3D visual simulation of fires. Version 4 has been released and is validated for specific uses. Documenting a fire scene should include the basic geometry of a structure. Photographs are helpful but unless a reference scale is used, it does not replace a hand sketch with dimensions. For fire investigators there is a form in NFPA 921 Figure A 15.3.2 that if completed, provides fill in the blank type questions. MDE has the expertise and the ability to determine if FDS modeling is beneficial to a project, to perform fire modeling, to critique a modeling scenario used on a project, and to provide expert opinions during litigation.



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