



Cumberland School of Law

Automobile Accident Litigation

October 9, 1998
Medical Forum Building
Birmingham-Jefferson Civic Center

Approved for 6.8 CLE hours



MICHAEL J. CROW

Uses Of An Accident Reconstructionist Expert

INTRODUCTION

Following a head on collision involving two vehicles on a south Alabama county road, the local deputy sheriff, who has no accident investigation training, arrives on the scene with the medics. Sometime later a state trooper responds to the emergency call. The local "rule" is that the first law enforcement officer to arrive at the scene of the collision will conduct the investigation, unless the officer chooses to delegate the task. The state trooper is a rookie, who gladly relinquishes the primary responsibility for the investigation to the deputy sheriff.

It is a cold and windy January day. The ambulance arrives and quickly removes the victims from the scene. Local sight seers and emergency vehicles drive through the area of the collision. The physical evidence relating to the collision is obscured or obliterated entirely.

The deputy sheriff takes some photographs of the scene and vehicles and makes minimal measurement of tire tracks, gouge marks, and post collision distance of travel. The vehicles are removed from the scene to the local junk yard.

One year later, the parents of the catastrophically injured teenager, who was operating one of the vehicles, appears in your office. They insist that their son was a safe driver, a responsible young man, and clearly could not have been on the wrong side of the road at the time of the crash. The insurance company for the driver of the

other vehicle has denied liability, insisting its insured was not responsible for the collision.

An initial inquiry yields a copy of the Uniform Alabama Traffic Accident Report prepared by the deputy sheriff, photographs, and no eye witness reports. The young man who desires to be your client has retrograde amnesia. The statement of the other driver given to the deputy sheriff indicates that she was operating her vehicle on the proper side of the road and at a safe and legal rate of speed.

Do you reject the case? If your curiosity compels you to conduct further investigation, what can be done?

MOTOR VEHICLE RECONSTRUCTION

The above scenario is not unusual, frequently investigations performed at collision scenes are inaccurate and sometimes non-existent. This situation is not hopeless. These days, reconstruction experts have developed methods by which scant facts can be utilized to develop evidence of physical facts which will lead to persuasive conclusions on liability.

Very simply, accident reconstruction is the process of finding out what happened during a collision by means of deductions, induction, and inferences from physical facts.

The objectives of the reconstruction procedures is to determine:

1. All the physical factors that relate to the collision;
2. The cause of the collision;
3. The cause of injuries to human beings.

INVESTIGATION

Early contact with an accident reconstructionist expert is imperative. "Early" may mean immediately following the collision if you are fortunate enough to have client contact that soon. Early may also mean immediately following initial client contact, but long after the collision. In either case, basic information to be gathered includes:

1. The official report prepared by the law enforcement officer investigating the wreck;
2. All photographs taken of the scene and of the victims;
3. Witness statements;
4. Evidence relating to the skid marks;
5. Tire prints;
6. Scuff marks;
7. Tracks on or off the road;
8. Scratches;
9. Gouges;
10. Scattered debris;
11. Puddles of water, oil, or blood;
12. Evidence relating to physical aspects of the state of the scene such as ruts, curves, ditches, a crown in the road, and landmarks;
13. Evidence relating to the vehicle including make, model, mechanical condition, at rest location, position following the collision, and the extent of damage done;
14. Information relating to personal injuries inflicted on victims;
15. Information contained in the investigating officer's field notes that may not be included in the formal report.

Deliver the materials gathered throughout the initial investigation process to the expert of choice. The experts initial review will define the path of the subsequent investigation.

Your expert will undoubtedly visit the scene, and it is advisable for you to accompany the expert. First hand observation of the scene will prove helpful in understanding the experts analysis and in trial presentation.

Nuances of testimony will be better grasped if you can establish a mental picture of the scene at a early stage.

I believe the best practice is to provide the expert with all available information, allowing them to sift through the facts and arrive at an independent conclusions. The experts will, in this manner, be able to more effectively inform you of the inaccuracies, inadequacies, and the inconsistencies of witnesses or the investigating officer's testimony. In some cases, I like for the investigating officer to accompany my expert to the scene to provide an opportunity for the expert to question the officer on changes of the conditions since the wreck. Often the officer's conclusion of the investigating process engenders a "team" attitude, resulting in a greater consistency of testimony between your expert and the law enforcement official.

EXPERT SELECTION AND OPINIONS

Numerous types of experts can be called in on a motor vehicle case.

The key issue of admissibility of the expert's opinion appears to be "will the offered testimony assist the jury".

Fed.R.Evid. 702 provides:

"...If scientific, technical, or other specialized knowledge will asset the trier of fact to understand the evidence or to determine a fact of an issue, a witness qualified as an expert by knowledge, skill, experience, and training, or education by testifying thereto in the form of an opinion or otherwise."

Rule 702 requires that all expert witness testimony "assist the trier of facts to understand evidence or to determine a fact in issue." In the final analysis the

determination of whether a particular reconstructionist is qualified to testify as an expert is left to the discretion of the trial judge. Remember that all opinions must withstand the Daubert test.

AREAS YOU MAY USE AN EXPERT

1. Impact Location and Angle Analysis:

In that through careful examination and analysis, gouge marks, tire marks, and other marks in the road ways can be matched to the specific part of the vehicle that produced them. The damage pattern to the vehicle can be compared to the marks in the road way to pinpoint the location of the impact within the road way to determine the angle of the vehicles at the moment of impact.

2. Speed Analysis:

Though the proper application of mathematical formulas can be arrived from principles of physics, an expert can calculate the speed on the bases of marks on the road way and damage to the vehicles. (Crush Analysis/Crush Deformation) The expert findings are likely to be more accurate if he or she is able to examine the roadways shortly after the wreck.

3. Variables which must be considered In Calculating Speed from a Set of Skid Marks:

- (a.) Length of skid mark;
- (b.) Number and identification of tires skidding "front or rear, right or left";
- (c.) Coefficient of friction of the surface of a roadway.

4. Scuff Mark

Is produced by a vehicle that is moving simultaneously forward and sideways in rotation and out of control.

5. **Impact Speed/Conservation and The Momentum**

The speed of colliding vehicles upon impact can be determined by analysis of the momentum involved in the crash, and by calculating the total momentum of the original components at impact with reference to the redirection following impact.

6. **Examination Of Vehicle System and Specific Parts:**

1. Brakes;
2. Tires (pre-impact or impact blow out);
3. Lamps: (headlights-taillights)
 - (a.) The most frequent allegation made by witnesses concerning lamps are that the other vehicle had no lights or that the other driver failed to dim the lights or their brake or signal lights failed to function;
 - (b.) Whether there is impact shock in the area of the lamp, the expert can usually render a definitive opinion as to whether the lamp was "on" or "off" at the time of impact. It will also be possible to determine which beam, if any, was lighted at the moment of impact. It is also possible to determine if the lamp burned out prior to the crash (hot brake vs. cold brake). The finding may support a claim that no signal was given or that no brake light was lit.

7. **Speed Odometer/Tachometer Analyst:**

- (a.) In some incidents either the needle on the speed odometer or the tachometer may be stuck at a particular reading after the crash. It is important to either validate or disprove the reading of the speed odometer/ tachometer in such cases.
- (b.) Under circumstance of head on impact, it is important to conduct an examination of the speed odometer/tachometer under magnification and high intensity ultraviolet light to determine the florescent tracings of the needle location at impact are present.
- (c.) This test may furnish powerful evidence of the precise reading of the speed odometer/tachometer at the moment of impact.

8. **Time and Distances Studies:**

- (a.) There are numerous applications of time and distance studies which may prove beneficial to your case. Time and distance studies can be used to determine whether a motorist maintained a proper lookout and would have had sufficient time to react under certain circumstances;

9. **Driver Identification:**

- (a.) The identification of a driver of a vehicle may become an issue following collisions where the occupants were ejected from a vehicle and either they cannot or will not provide information as to the identify of the driver.
- (b.) By matching injuries of individuals in the vehicles with damage to the interior of the passenger compartment, an expert may identify the driver of the vehicle.

These are just a few areas in which an expert may assist you in preparing your case for trial.

CONCLUSION

Remember experts can be a key factor in winning a motor vehicle case.

Lawyers must work with the experts to become familiar with the facts, to educate themselves, to anticipate the defense, and prepare the trial testimony. A smooth, articulate, interesting presentation at trial will result in persuasive testimony.