

# ACCIDENT RECONSTRUCTION DECONSTRUCTED

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## I. Introduction

Testimony and visual demonstratives from accident reconstruction experts can be extremely powerful when presenting vehicular accident cases to juries. In order to utilize this powerful tool, trial lawyers must think both analytically and creatively. The importance of finding a qualified accident reconstruction expert who can effectively use demonstratives to tell a compelling, multi-media narrative to the jury cannot be overstated. Effective trial lawyers must think creatively about how to weave these visual demonstratives into their trial presentations. However, before these visuals can be presented to a jury, you must critically analyze any potential challenges that may prevent your expert from presenting this evidence. This paper seeks to identify some of these potential challenges that may result in the exclusion of expert testimony from an accident reconstruction expert and details the best practices an expert should adopt in performing accident reconstructions.

## II. Accident Reconstructionists Can Offer Expert Testimony if They Follow Best Practices

Expert testimony from accident reconstructionists can be crucial on issues like causation and comparative negligence. *Mentis v. Barnard*, 870 S.W.2d 14, 16 (Tex. 1994); *Lincoln v. Clark Freight Lines, Inc.*, 285 S.W.3d 79 (Tex. App.—Houston [1st Dist.] 2009, no pet.). Although courts have sometimes struggled to analyze whether accident reconstruction expert testimony is admissible, Texas courts generally allow the testimony if the expressed opinions are supported by an underlying factual basis. *TXI Transp. Co. v. Hughes*, 306 S.W.3d 230, 236–38 (Tex. 2008). Typically, accident reconstruction experts will rely on physical evidence, photographs of the scene, basic physics, and witness testimony. *Id.* In order to ensure that an accident reconstruction expert's testimony is not excluded, the sponsoring trial lawyer should ensure that the testimony properly relies on the underlying evidence to reach the offered opinions.

For example, in *Hughes*, the Texas Supreme Court held that an accident reconstruction expert's opinions were erroneously excluded because he properly relied on the underlying evidence to reach his conclusions. *Id.* at 240. In *Hughes*, a wrongful death case, the critical issue was whether the plaintiffs' vehicle had crossed the center line before or after the

collision occurred. *Id.* at 233–34. The plaintiffs' accident reconstruction expert, Dr. Kurt Marshek, testified that the driver of the plaintiffs' vehicle was forced to cross the center line to avoid TXI's gravel truck. *Id.* at 234. On appeal, TXI challenged the trial court's decision to allow Marshek to testify contending that his opinions were unreliable. *Id.* at 234–39. The Texas Supreme Court disagreed, explaining that Marshek's testimony was reliable because (1) he explained the principles of physics supporting his theory; (2) he ruled out alternate theories, explaining how the physical evidence and physics supported his theory; (3) his use of witness testimony was proper; and (4) he followed proper protocol. *Id.* at 236–40.

When offering expert testimony on accident reconstruction, the four areas analyzed by the *Hughes* court provide a useful lens for evaluating the opinions of your accident reconstruction expert.

### A. Principles of Physics Must Support an Accident Reconstructionist's Opinions.

Accident reconstruction experts must be prepared to explain how basic principles of physics support their opinions in order to avoid being excluded. They cannot merely invoke the "principles of physics" in support of their opinions.

Accident reconstructionists are not required to have advanced degrees or engage in recondite calculations, but they must possess appropriate training and use basic physics to explain how they reach their opinions. *Pena v. State*, 155 S.W.3d 238 (Tex. App.—El Paso 2004, no pet.) (police officer qualified to testify as accident reconstruction expert on speed reconstruction based on a variety of training courses in speed reconstruction he had taken and based on the number of occasions he had conducted speed reconstruction); *Lincoln v. Clark Freight Lines, Inc.*, 285 S.W.3d 79, (Tex. App.—Houston [1st Dist.] 2009, no pet.) (police officer testified about cause of the accident based on 23 years of experience in accident reconstruction). At the end of the day, this means that accident reconstructionists must explain how their opinions are supported by physics in order to show that they are not based solely on a "subjective interpretation of the facts." *Volkswagen of Am. v. Ramirez*, 159 S.W.3d 897, 906 (Tex. 2007).

In *Ramirez*, the Texas Supreme Court reasoned that an accident reconstructionist's theory was simply not supported by a common-sense analysis of the evidence in the case. *Id.* at 905–06. The plaintiffs in

*Ramirez* offered testimony from an accident reconstructionist who offered a “floating wheel” theory — explaining how the left rear wheel detached from the car and caused the accident. *Id.* at 901–02. Volkswagen argued that the accident was caused by driver error, contending that if the wheel had detached it would not have remained in the wheel well through the turbulent events immediately preceding the collision. *Id.* at 902.

The plaintiffs’ expert claimed his “floating wheel” theory was supported by “basic scientific and some engineering principles, but all abiding by the laws of physics.” *Id.* at 905. However, the Texas Supreme Court reasoned that his testimony simply did not explain how “the laws of physics” supported his theory that the wheel remained in the wheel well as it crossed the median traveling at 50–60 miles per hour. *Id.* at 905–06. The Supreme Court also evinced concern that the expert had not performed any tests to validate his theory. *Id.* at 906.

Thus, although an accident reconstructionist should rely on basic principles of physics to support his opinions, he must explain how the principles of physics support his theory.

#### **B. Eyewitness Testimony Should be Considered and Addressed by an Expert.**

Accident reconstructionists often review the written statements or testimony of eyewitnesses, but this can prove problematic given the often-contradictory and unreliable nature of eyewitness statements. *See, e.g.*, CHABRIS AND SIMMONS, *THE INVISIBLE GORILLA: AND OTHER WAYS OUR INTUITIONS DECEIVE US* (New York: Crown 2010). Texas courts have recognized this difficulty by recognizing that an accident reconstructionist is not required to believe all witness testimony. An accident reconstructionist may discount a witness’s testimony when the testimony is contradicted by other evidence. *Hughes*, 306 S.W.3d at 238. However, when an accident reconstructionist discounts the account of a witness, the expert should be prepared to explain why the testimony should be discounted. *Id.*; *see Lofton v. Tex. Brine Corp.*, 777 S.W.2d 384, 386 (Tex. 1989) (“[T]he accident reconstruction expert witness . . . testified that portions of Johnson’s testimony (including distances in particular) were impossible to reconcile with the physical evidence.”).

#### **C. Alternate Theories Must be Considered by an Accident Reconstructionist.**

In cases involving alternate theories of causation regarding an automobile accident, it is important for an expert to explain why the alternate theory is not as plausible as the expert’s theory. An accident reconstructionist cannot offer a theory as his opinion when the evidence equally supports an alternative theory. *Ramirez*, 159 S.W.3d at 906.

#### **D. Proper Protocol Must be Followed by an Expert Performing an Accident Reconstruction.**

The Texas Supreme Court has recognized that an accident reconstructionist must follow proper protocol when reconstructing how an accident occurred. *See Hughes*, 306 at 236–40. But Texas courts have not provided a systematic guide to the protocols that should be followed. Accordingly, an accident reconstructionist should be prepared to discuss the protocols that apply to a proper accident reconstruction and testify that those protocols were followed in reaching his conclusions in the case.

### **III. Best Practices and Technology Currently Available in Accident Reconstruction Today**

Ultimately, an effective accident reconstructionist must understand the issues at hand and their importance to your overall case. Allowing a good reconstructionist access to your strategy can allow you to have the desired effect. He or she can and should help shape the narrative. Through thoughtful and thorough fieldwork combined with effective trial exhibits, a good reconstructionist can maximize the impact the facts have upon a case.

#### **A. Fieldwork with the Appropriate Tools and Techniques is Crucial in an Accident Reconstruction**

The most crucial task a reconstructionist has in making his or her analysis withstand heavy scrutiny is exemplary fieldwork. Looking at the available physical evidence is preeminent. Techniques for capturing field data are rapidly expanding. Tried and true technology like photography supplemented with measuring rods and survey measurements are still useful and sometimes necessary, but newer technology such as 3D laser scanning, automated drone photography and event data recorder extraction

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