IN THE CIRCUIT COURT OF THE
17TH JUDICIAL CIRCUIT, IN AND
FOR BROWARD COUNTY, FLORIDA

STATE OF FLORIDA,

Plaintiff,

vs.

DAVID RABIN,

Defendant.

CASE NO. 89-18816CF
JUDGE KAPLAN

Fort Lauderdale, Florida

December 12, 1991

4:00 o'clock p.m.

APPEARANCES:

MICHAEL J. SATZ, STATE ATTORNEY,
BY: LEE COHEN, ESQUIRE,
ASSISTANT STATE ATTORNEY.
-and-
MR. TOBIN, ESQUIRE,
ASSISTANT STATE ATTORNEY.

ALAN H. SCHREIBER, PUBLIC DEFENDER,
BY: MARIE SCHNEIDER, ATTORNEY AT LAW,
ASSISTANT PUBLIC DEFENDER,
Appearing on behalf of the Defendant.

* * *

DEPOSITION

OF

RICK SWOPE

LAWYER'S NOTES

I N D E X

Deposition of RICK SWOPE, a witness of lawful age, taken by the Defendant, for the purpose of discovery and for use as evidence in the above-entitled matter, wherein STATE OF FLORIDA is the Plaintiff and DAVID RABIN is the Defendant, pending in the Circuit Court of the 17th Judicial Circuit, in and for Broward County, Florida, pursuant to notice heretofore filed, before CHRISTINE A. AMAN CANNON, a Notary Public in and for the State of Florida at Large, in Room 740, Broward County Courthouse, 201 Southeast 6th Street, in the City of Fort Lauderdale, County of Broward, State of Florida, on the 12th day of December, 1991, commencing at 4:00 o'clock p.m.

* * *

Thereupon:

RICK SWOPE

a witness of lawful age, being called as a witness by the Defendant, having been first duly sworn, testified under oath as follows:

DIRECT EXAMINATION

BY MS. SCHNEIDER:

Q. State your name for the record?

A. Richard Swope, S-W-O-P-E.

Q. Mr. Swope, you have just, prior to starting the deposition, handed me your resume. I can

just include it in your deposition. This is all accurate and stuff, right?

A. Yes, ma'am.

Q. I'm Marie Schneider and I represent David Rabin. I want to talk to you about the situation which lead to Mr. Rabin being charged with vehicular homicide. When did you first become involved with this case?

A. I first became involved with it December 1990.

Q. What was the nature of your involvement at that point?

A. I was requested by the State Attorney's Office to look over the homicide report that was given to me and photographs of the incident.

Q. Did you do anything at that point and time other than go over the report you just mentioned?

A. Not at that time, no.

Q. Did you form any opinions or come to any conclusions as a result of reviewing those reports?

A. At that time, yes.

Q. What conclusions did you come to at that point?

A. At that time, I believe, the vehicle was exceeding the speed limit and that there was reckless

driving involved.

Q. Just so we can be real specific, was the report prepared by Mr. Shoney, Officer Shoney?

A. Officer Davis.

Q. Officer Davis, anything else other than, I think you mentioned the photographs?

A. I looked at the photographs. I looked at the Probable Cause sheet, and I looked at the homicide report which contained basically all the information, the measurements, the speeds, the opinions of the police officers, driver information, and autopsy report. That's basically what I had at that time.

Q. What did you do then after making those determinations from the reports we've just discussed?

A. I just made -- I just made contact then with Mr. Tobin at the the State Attorney's Office and told him that I would speak with him about the case whenever he wanted to, and at that time the file had been reassigned to somebody else, and I met with them sometime in the next couple months, sometime in the past week, I think.

Q. Did there come a time other than speaking to the state attorney when you did any further work or investigation on the case?

A. Yes.

Q. Tell me about that?

A. I had spoken to State Attorney Robin Richards who had taken over the file. And she told me to do a workup on the case and come up with any opinions I had and I met the police officer at the scene.

Q. I was just going to ask you, what does the initial workup entail?

A. Full workup usually requires looking at the report, coming up with my opinions, going to the scene, speaking with police officers who may have been on the scene, EMS personal if any. These types of things.

Q. What did you do of those things we just discussed in this particular case?

A. I went to the scene. I met the police officer. I reviewed the statements. I reviewed the police officer's deposition, photographs, those types of things, measured the scene.

Q. Did you speak to the EMS personal or any of the other individuals involved other than the police officer who did the homicide report?

A. No.

Q. Have you spoken to anyone else other than that one police officer and state attorney regarding

the evidence or the scene or anything in this particular case?

A. No.

Q. What do you know about the scene now? What have you been able to ascertain about the scene now?

A. As to what?

Q. As to the surface, the road conditions, anything and everything that you know about the scene right now.

A. Well, the scene is not -- the roadway itself is not changed since the accident. I have spoken to -- I guess to answer, I guess I did miss one person. I did speak to Broward County Survey. They have plans of the roadway. I did speak to them and looked at their plans and plots of the roadway but the roadway has not change.

Q. No repairs, no --

A. Not that I can tell.

Q. -- no repaving or construction or anything like that?

A. No.

Q. What type of scene are we talking about? What type of roadway?

A. We were talking about a curb.

Q. Did you measure the curb yourself?

A. Yes.

Q. What were the dimensions?

A. What in particular are you looking for? Are you looking for the radius?

Q. I'm look for everything.

A. Well, you have to tell me what you want. What do you want? You want the roadway measurements or the curb?

Q. I want those.

A. The radius of the curb where the accident occurred was measured at three hundred and twelve feet. That was also verified through the plans and plots on the roadway. I believe Officer Davis has three zero nine in his report so it was only a couple of feet difference but that's easy to do. It doesn't matter in the critical speed?

Q. Okay.

A. And the roadway measurements, roadway, I believe, the roadway was twenty-four feet in width. I believe the roadway measurements were twenty-four. I can't seem to find it. Twelve foot of lane; however, the diagram is to scale so that will give it to you.

Q. Any other measurements of the roadway?

A. I made some measurements of the tree where

the impact occurred, and the tree was located ten feet seven inches east of the east edge of Diplomat Parkway, the roadway itself. Also there were -- I measured sodium vaper lights. The vapor lights were approximately two hundred feet apart, each two hundred feet there was sodium vapor lights.

Q. On each side of the roadway?

A. No, on just one side of the roadway.

Q. Would that be the side that the accident occurred on or the opposite side?

A. That the accident occurred on.

Q. On that side?

A And there was also lighting, incondensate lighting on the buildings in the area, overhangs. Of course, that was all off the roadway. The roadway itself was checked when I was at the scene, and I couldn't see any type of damage to the roadway as far as the asphalt having been paved or repaired, loose gravel or anything like that. The roadway was in fairly good condition with the double yellow line in good condition.

Q. You say you did review the reports of that particular roadway, the maintenance reports?

A. I reviewed the plans and records which gives you the radius of the curb and also the type of

roadway, the asphalt, and when it was constructed. So basically, I wanted to see if the roadway had changed and there was no changes on the plans, and I also got the radius of that curb which I listed at three hundred and twelve feet.

Q. You didn't measure it yourself?

A. I did but I also verified it through the survey.

Q. Have you ever looked at the maintenance reports of that particular roadway.

A. There was nothing -- usually when you look at the files on roadway that are maintained by the county, when you look at the file they have anything done previously in the last couple of years. Nothing was on the chart.

Q. Nothing was on the chart. Any other additional places where you may look for information of that nature?

A. You can go back to the date of construction but I didn't go back. There was no reason to go back anything over two years before the accident.

Q. So what you know, you really do not know what the history of this particular roadway is in terms of any kind of repairs, changes prior to the accident, things of that nature?

A. No.

Q. What opinions did you form about the speed of the vehicle?

A. You want the speed of the vehicle, what I believe the speed to be --

Q. Well --

A. -- or what do you want?

Q. I want what you determined the speed of the vehicle to be and what mathematical computations you did to determine that?

A. I determined the speed of the vehicle to be sixty-six point thirty-nine miles per hour from the time that the vehicle went into his rotation and began skidding sideways. It skidded a distance of eighty-nine point nine feet across the grass and he made impact with the right side of the vehicle up against the tree that was located on the side of the roadway.

Q. How did you determine that was the speed?

A. The speed I used or how I determined the speed was based on the minimum speed formula which is the square root of thirty DSM and also the use of the combined speed formula which is speed one squared plus speed two square root. You add them and square root them. I used the distance that the vehicle skidded

over the grass which was measured by the police officer and verified by me at the scene with him.

Q. What is that called, the furrow marks?

A. Yes. At eighty-nine point nine feet across the grass using a factor of point three zero across the grass which is what I determined with my drag sled. I also went out there and did it at night so approximately the same time of the accident, 12:40. I came out with a point three zero. I used a four wheel breaking percentage at one hundred percent because the car was sideways during that distance.

Q. How do you know the car was sideways?

A. Because of the four furrows in the grass and the police measured it that night. We had verified it went sideways. He stated there was a mark on the road where the car began rotating but the vehicle stayed sideways when it hit the grass.

Q. Were you able to look at those marks or look at photographs of those marks?

A. The mark that occurred on the roadway. I did not see it. It was not there at that time.

Q. Are there photographs of that?

A. Yes. However, the car was sideways. Only two or three tires were available. However, you give it the maximum amount of breaking because if the car

goes sideways, that's maximum breaking. There's no way the wheels can be turned. It has to stop going sideways so that's how you work the mathematical formula.

By using the information I gave you with the distance, the breaking percentage and the factor on the grass, I came up with the speed up until it hit the tree at a speed of twenty-eight point forty-two miles an hour.

Then using an impact speed of sixty miles per hour which would be the minimum impact speed for the amount of damage done to the car in striking that tree, you then use the combined speed formula and you arrive at sixty-six point thirty-nine miles an hour.

Q. I don't understand how you get from the sixty point whatever miles an hour thirty-nine miles an hour from the twenty-eight miles an hour?

A. Okay, by using the combined speed formula.

Q. Which formula is that, the combined speed formula?

A. That's the SC square root speed one squared plus speed two squared. You add them and you square root them and that's how you come up with the speed.

Q. Okay.

A. How you arrive at it is when the vehicle travels the first eighty-nine feet across the grass, it is not a skid to a stop, it is a skid to impact. Therefor, it would be the same thing as if we had ten feet of skidmarks on the road and five hundred feet on the grass.

The first ten feet of skidmarks on the pavement would only give you a couple of miles an hour. It's obvious that the car would be going much faster in this case. The car had sufficient amount of energy, considerable amount of energy that was absorbed by the tree.

If fact, destroying the entire car. We combined the first distance on the grass, and then we combined the impact speed with the tree and you arrived at a combined speed.

Q. Excuse me if it's a stupid question but I still don't know how we got from twenty-eight miles to sixty-six miles?

A. You combined the twenty-eight point forty-two. You then add that with the sixty miles per hour impact which is --

Q. How do you arrive at that? How do you estimate that it was sixty?

A. By two things in this case. Number one by

damages, and secondly, by the critical speed of the curb.

Q. Are there variables in a formula you use to determine that? Aren't there constants and variables?

A. There's always variables in any formula. There's variables no matter which one.

Q. What are the variables in this particular formula?

A. In this particular formula, could be anything from the friction in the grass, the amount of braking, the distance traveled, the impact speed. There's really all kinds of variables.

Q. Did you insert any variables into the formula the way you worked out the speed?

A. Yes.

Q. What were the variables that you inserted into the formula?

A. I don't recall each variable. However, all of them were a little higher. This was the lowest variable that I came out with. This was the lowest speed.

Q. Do you have the notes of your variables?

A. I did them with a computer and a calculator. I don't keep track of every note.

Q. Off of the top of your head, you don't recall which variables you used?

A. I used different drag factors.

Q. Different drag factors?

A. Different drag factors of the grass which made the speed higher. I also used a higher impact speed which made the speed higher. So every variable I used would have been higher than the sixty miles an hour.

Q. There was no variable that you used that would give you a lower speed at all?

A. No.

Q. So then you estimated the speed on impact from the crash. The crash on the car?

A. The crash and the critical speed of the curb, yes.

Q. What did you do to determine how much crash there was on the car? Did you look at the car, the actual car or did you look at the photographs?

A. I looked at pictures and spoke to the police officer.

Q. Did you ever look at the actual car?

A. The car was not available.

Q. Back in December, the car was not available?

A. According to the information I had, the car was not available.

Q. Were there any measurements made available to you of the actual crash of the car?

A. You mean by crush measurements?

Q. Yes.

A. No.

Q. None of the police officers ever took any crush measurements?

A. I don't believe so, no.

Q. It would be the most accurate way to tell the speed?

A. No.

Q. What would you consider to be the most accurate way to tell the speed?

A. The most accurate would be to be there.

Q. To clock it.

A. And radar, that would be the most accurate.

Q. Barring that.

A. Barring that. That crush -- there is much more variable in crush damage considerably more than there is in the minimum speed formula.

Q. So you consider that you could be more accurate without the crush?

A. Of course, crush damage -- there are so many variables to crush damage that most reconstructionists do not use it.

Q. Are there reconstructionists that disagree with you?

A. I'm sure there are. They disagree with a lot of things but crush damage -- No, crush damage would be the last type of resort situation if you had no other information. If you have other information, I do not use crush. I teach my students. I have a homicide class going on tonight, advanced tonight, and we teach them not to use that if there is other information available.

Q. Which were the measurements you just talked about?

A. The measurements, the drag factors, the critical speed the curb.

Q. But the drag factors, you're computing variables?

A. No, that's not correct. Drag factor is a variable. If you don't understand it, go out on the scene and test it.

Q. You tested them here?

A. Yes, I did.

Q. You did personally?

A. Yes, I did.

Q. Tell me how you do that?

A. I used a drag sled. A drag sled weighs between forty and forty-two pounds depending on the day because concrete expands or goes down depending on the heat. We use a scale and pull it across the roadway. It's simular to what Miles Moss uses.

Q. Would the surface of the grass, whether the grass was wet or not wet, whether it was dry, whether there was no grass, whether the grass was crushed and kind of torn, would all those things make a difference?

A. Yes. But again that depends on where you do the testing and how you do the testing. I would say if you did it during the daytime when the grass was dry you get somewhat of a different factor than you did at the time of the accident. However, when you do a drag test, you do it basically with conditions being the same and that's what I did.

Q. You know what the weather conditions were on the day of the accident?

A. Based on what the police officer told me, yes.

Q. Do you know if that lawn had been watered or if it had sprinkled earlier or anything of those

things?

A. No. I know the grass had not been watered when I did the testing and that was about the same time the accident happened.

Q. If the grass had been watered or sprinkled or was wet for whatever reason, would that have changed in the formula or would that change the results?

A. Yes. It would have made the speed faster than what I gave, yes.

Q. So it's possible that the car -- if a roadway or the grass on which the furrow marks were taken from is wet that you might actually get a higher speed than what the car was actually traveling at?

A. No. I wouldn't. But based on your previous question that you had if you asked me if it would have sprinkled, the grass would be more wet. Then I would have gotten a higher speed at that time.

Q. My question is that if a vehicle and this is hypothetical, if a vehicle is involved in an accident and you measure and you do your drag testing and all that with your drag sled on dry grass but the grass on that night was wet, then isn't it possible that you would get a faster -- never mind. Forget it.

MR. TOBIN: If the grass was wet, his speed would have been higher not lower.

MS. SCHNEIDER: I understand that.

Q. Did you use a program to develop your -- the things you developed with the formula? I don't know what the terms are.

A. Computer program?

Q. A program, yes, a computer program?

A. I use a program to verify my figures. I use a calculator to do it long hand and I program it and do the variables on the computer where I run maybe ten or twelve variables.

Q. Which program?

A. I have two programs. One by David Bailey, B-A-I-L-E-Y and his program basically has all the formulas used in it and I also used an Ed Cratch (phonetic) program which is developed by engineering [illegible]

Q. Did you use both or did you use one?

A. I used both.

Q. Is it possible to get a copy of the output you ran?

A. I didn't make a run. My run, I did not save. I didn't print it out. I was not asked to produce a run. If the State would ask me, I would have certainly given it to you.

Q. Are there variables not necessarily road

variables but things such as a driver's reaction that would effect the way you determined the speed. If somebody cuts the wheel, for instance, and loses control as opposed to it being speed that caused the loss of control?

A. Well, it depends on what kind of situation. I really don't know how to answer your question. There are factors that effect everything we do. If there are known factors, it would effect the speed or the situation, certainly anything would.

Q. Because you just said the critical speed for the curb is what for this particular curb?

A. Critical speed is sixty-three point fifty-nine miles an hour.

Q. So basically what you're saying is the vehicle loses control because they were going sixty-six point thirty-nine miles an hour and the critical speed would have been sixty-three miles an hour, right?

A. Yes.

Q. That's the bottom line.

A. Yes.

Q. Would something like a driver sharply turning the steering wheel cause a driver to lose control at a lower speed?

A. You mean on a crash or on a separate way.

Q. On this particular curb?

A. At any speed, at fifteen miles an hour -- I shouldn't say -- if a driver cuts a wheel sharply you could lose control of the car.

Q. So cutting the wheel at a sharper angle would lower the critical speed of a curb, wouldn't it.

A. The angle of the steering wheel has nothing to do with the critical speed of the curb.

Q. What I mean by the critical speed is the speed at which you would lose control over your vehicle. Which is basically what it is. So if somebody is going through a curb, on this particular curb if you would not lose control per your calculations unless you were going over sixty-three miles an hour.

If you were going less than that, if you were going fifty or forty miles an hour but the wheel was cut for whatever reason at a sharp angle then you would lose control even though you were going actually at a lower speed?

A. Yes.

Q. Is there anyway to determine in an accident situation such as this if that occurred?

A. Yes. There would have been -- that would have been based on physical evidence on the roadway.