

1 STATE OF NORTH CAROLINA IN THE GENERAL COURT OF JUSTICE
2 COUNTY OF WAKE SUPERIOR COURT DIVISION
3 10-CVS-019930

4 BRIAN CECCARELLI and LORI)
5 MILLETTE, individually and)
6 as class representatives,)
7)
8 Plaintiffs,)

9 v.)

10 TOWN OF CARY,)
11 Defendant.)

12
13 Deposition of BRIAN CECCARELLI
14 (Taken by the Defendant)
15 Apex, North Carolina
16 Tuesday, September 4, 2012

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20 Reported by: Marisa Munoz-Vourakis -
RMR, CRR and Notary Public

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25 Job No. AMB200063

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19 Deposition of BRIAN CECCARELLI, taken by

20 the Defendant, at Stam & Denchi, 510 W. Williams

21 Street, Apex, North Carolina, on the 4th day of

22 September, 2012 at 10:00 a.m., before Marisa

23 Munoz-Vourakis, Registered Merit Reporter, Certified

24 Realtime Reporter and Notary Public.

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I N D E X

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EXAMINATION BY MS. MARTINEAU		5
	DEFENDANT EXHIBITS	
EXHIBIT NUMBER	DESCRIPTION	PAGE
Exhibit 1	Misapplied Physics in the International Standards that Set Yellow Light Durations Forces Drivers to Run Red Lights article	29
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P R O C E E D I N G S

1
2 Whereupon, BRIAN CECCARELLI, having
3 been first duly sworn, was examined
4 and testified as follows:

5 EXAMINATION BY COUNSEL FOR DEFENDANT

6 BY MS. MARTINEAU:

7 Q. Good morning, Mr. Ceccarelli, my name is
8 Elizabeth Martineau. I'm here to take your deposition
9 today. I represent the Town of Cary in a lawsuit that
10 you brought against it.

11 Have you ever given a deposition before?

12 A. No.

13 Q. Before we started, the court reporter gave
14 you some ground rules for taking your deposition, but
15 I'm just going to go through a few of them myself.

16 Today is my one opportunity to ask you
17 questions. Will you agree to answer my questions in
18 the most truthful manner you can today?

19 A. Yes.

20 Q. Have you ever testified as a witness
21 before?

22 A. No.

23 Q. All right. And the most important thing is
24 for the court reporter to be able to hear and
25 understand your answer so she can write it down, so if

1 you would make sure that you answer my question using
2 words as opposed to gestures, will you agree to do that
3 today?

4 A. Yes, as best as I can, yeah.

5 Q. And also I know that you have a lot to say
6 about this subject, and, you know, you and I have
7 talked before and had the opportunity to be together
8 before, but the purpose of this deposition is for me to
9 ask you questions and for you to answer the questions
10 that I ask, not to, you know, run off on tangents
11 somewhere. You're welcome to answer any questions your
12 attorney has when it's his turn to ask questions.

13 Does that make sense to you?

14 A. Yes.

15 Q. If you don't understand my questions, I'm
16 having a hard time getting started here a little bit
17 this morning, that's fine, just let me know, because
18 I'm not trying to trick you or fool you. I'm just
19 trying to get a good record, okay?

20 A. Okay.

21 Q. Finally, I have my cell phone on today
22 because my father had a medical emergency yesterday, so
23 to the extent that I get a phone call, I'm going to ask
24 to go off the record, is that fine?

25 A. Yeah, that's fine.

1 Q. Okay. So you're here today, and it's
2 correct that part of your lawsuit involves a citation
3 that you received from the Town of Cary for the Redflex
4 camera program, correct?

5 A. Correct.

6 Q. And you're also here today because you've
7 signed an affidavit, and you intend to give testimony
8 as an expert in this case, is that correct?

9 A. That's correct.

10 Q. Okay. So what I want to do first is I want
11 to separate them out, and I want to probably going to
12 start off a little bit about with your background. I'm
13 going to then move to your citation and then maybe go
14 forward with the expert testimony that you intend to
15 give. Does that make sense?

16 A. Yes.

17 Q. So tell me a little bit about your
18 educational background.

19 A. I have a bachelor of science in physics
20 from the University of Arizona, so that's my -- that's
21 my formal training in physics.

22 Q. And that was when?

23 A. That was from '79 to '83.

24 Q. And other than the BS, do you have any
25 postgraduate education or training?

1 A. No.

2 Q. How about are you -- what do you currently
3 do for work?

4 A. I'm a business owner, and I contract myself
5 out as a computer programmer of various sorts.

6 Q. Any type of computer programmer? What
7 types of programming do you do, for what types of
8 businesses or companies?

9 A. North Carolina, it's mainly been for
10 financial companies, within the past has, but I work
11 for as a computer programmer for the Lunar Planetary
12 Lab in Arizona and also a mining engineering company
13 called ETI and a mechanical engineering company called
14 S&H Machine and Engineering.

15 North Carolina, mainly when I moved here,
16 my jobs here mainly have been involved in financial,
17 even though I did some time at Lucent
18 Telecommunications Company and Icagen, which is a
19 pharmaceutical startup.

20 Q. When did you move to North Carolina?

21 A. In '93.

22 Q. So you graduated in '83?

23 A. Yes.

24 Q. And then you worked for some time and then
25 you moved to North Carolina in 1993?

1 A. That's right.

2 Q. And have you ever been licensed to practice
3 engineering in any state?

4 A. No.

5 Q. And you talked a little bit about prior to
6 moving to North Carolina, you worked for two different
7 engineering firms, one I believe you said was ETI, is
8 that right?

9 A. Yes.

10 Q. When was that?

11 A. 1986 to 1991.

12 Q. What was your position with ETI?

13 A. Programming, engineering applications.

14 Q. For what purpose?

15 A. The purpose was to map orebodies, copper
16 orebodies in this particular case or cobalt orebodies,
17 whether they be in Chile, our clients were in Chile and
18 in Zaire at the time, and also to do finite element
19 analysis programs. All these require quite a bit of
20 knowledge of engineering actually, and so my physics
21 background lends me to do those things pretty well, so.

22 Q. Was ETI a private company?

23 A. Yes.

24 Q. And did the job require you to be a
25 licensed engineer?

1 A. No.

2 Q. Did you do any type of traffic signal
3 engineering while you were at ETI as part of your job?

4 A. No.

5 Q. The other engineering firm you indicated
6 you worked for, I think you said was SH Machine?

7 A. S&H Machine and Engineering.

8 Q. S&H Machine and Engineering?

9 A. Yeah.

10 Q. Where is that located?

11 A. Also in Tucson, Arizona.

12 Q. When did you work there?

13 A. '81 to '86.

14 Q. So that was before ETI, is that right?

15 A. That's right.

16 Q. What did you do at S&H Machine and
17 Engineering?

18 A. Programming position. All my positions
19 have been programming positions. But at S&H, primary
20 responsibility was to write a computer-aided design and
21 machining system to help their machinists fabricate
22 various parts for different defense contractors.

23 Q. Can you tell me or describe for me what
24 types of parts that you designed?

25 A. Yeah, it's been quite a while. One of them

1 was called a satellite wave guide, and satellite wave
2 guides, it looked like little labyrinths, and you put
3 an electromagnetic signal into one end and out the
4 other end comes a signal that's in the shape of a
5 country, like the United States. And as the satellite
6 orbits the earth, it just simply focuses on the United
7 States, so that the Mexicans can't overhear our
8 communications or the Canadians can't overhear it.

9 So you use wave guides. They're very
10 complicated in design. They involve a lot of
11 mathematical know how to write the programs to make the
12 channels which make the wave guide.

13 So that's like one example.

14 Q. And what was your title at S&H Machine and
15 Engineering? What was the title of your position?

16 A. It was just like, it's anything, I wanted
17 it was a small company, he always called me the vice
18 president of research and development, the boss.

19 Q. Sure. Did any of your job duties at H&S
20 (sic) Machine and Engineering involve designing or
21 critiquing traffic signal plans?

22 A. No.

23 Q. Why did you leave H&S (sic) Engineering?

24 A. My -- the boss and I had a disagreement
25 over how to handle a piece of software product that we

1 had.

2 Q. So did you leave voluntarily or were you
3 terminated?

4 A. Well --

5 Q. Or was it mutual?

6 A. Well, I was terminated, but there's a funny
7 story to all that, but.

8 Q. You were terminated?

9 A. Yeah.

10 Q. So then you went from H&S (sic) Machine and
11 Engineering to ETI?

12 A. Yes.

13 Q. What does ETI stand for?

14 A. Engineering Technology International.

15 Q. And did ETI employ other individuals with
16 physics degrees other than yourself?

17 A. There is (sic) a couple of geophysicists
18 there.

19 Q. And you worked there from 1986 to 1991,
20 approximately?

21 A. Yeah.

22 Q. And then why did you leave ETI?

23 A. The country that funded all our contracts
24 began a civil war and that was the end of that.

25 Q. And then what did you do next?

1 A. I worked for Lunar Planetary Plan, also in
2 Tucson, on a Mars observer project.

3 Q. And did any of that work with Lunar
4 Planetary Lab involve either designing or critiquing
5 traffic signal plans?

6 A. No.

7 Q. And what did you do after that?

8 A. After that, I came to North Carolina.

9 Q. And why did you come to North Carolina?

10 A. A couple of reasons; my spaceship blew up,
11 okay, so the job came the end of mission, and no fault
12 of mine, that I know about anyway. But when my
13 spaceship got to Mars, it was supposed to phone home
14 and say here I am, and it never phoned home.

15 So about three months later, NASA called it
16 and ended the mission, which left me jobless again.

17 And so I have a friend here, a musician
18 that I played music with in Tucson, who moved to North
19 Carolina oh, a few years prior to my moving here, and
20 that's why I came here, more jobs here and a friend
21 here.

22 Q. And who was that? Who was your friend?

23 A. Mike Collins.

24 Q. And what did you do when you first came to
25 North Carolina?

1 A. Job wise?

2 Q. Yes.

3 A. I worked for General Electric.

4 Q. What was your position there?

5 A. It was advanced technical consultant.

6 Q. What did you do?

7 A. Programming.

8 Q. What kind of programming? Like what types
9 of things?

10 A. They did mortgage loans.

11 Q. How long did you -- well, let me ask you,
12 was this a consulting position or were you an employee?

13 A. I was an employee of GE.

14 Q. And how long did you work for GE?

15 A. Until 1997.

16 Q. And did your job with GE involve either
17 designing or critiquing traffic signal plans?

18 A. No.

19 Q. And then what did you do after -- why did
20 you leave General Electric?

21 A. A better opportunity.

22 Q. And where did you go next?

23 A. Lucent.

24 Q. What was your job at Lucent?

25 A. Programming.

1 Q. And when you say programming, you mean
2 computer programming, is that what you mean exactly?

3 A. Yeah, my job has always been programming of
4 one sort or another.

5 Q. And what types of programs did you design
6 or help design at Lucent?

7 A. A database, databases.

8 Q. For what?

9 A. They had in mind that they wanted to keep
10 track of all the telephones at everybody's address so
11 that when you called up, they could say oh, you live at
12 115 Greenwood Drive in Cary.

13 Q. How long did you work at Lucent?

14 A. Just one year.

15 Q. And did part of that job at Lucent involve
16 either designing or critiquing traffic signal plans?

17 A. No.

18 Q. Where did you go after that, after Lucent?

19 A. NC State.

20 Q. As an employee or as a student?

21 A. As a consultant.

22 Q. And what department did you consult with or
23 what department hired you to be a consultant?

24 A. They have an acronym for it, I can't
25 remember it. It's ACS, something computer -- the

1 computer department, I can't remember.

2 Q. Some computer?

3 A. Yeah, some computer. I can't remember the
4 exact acronym.

5 Q. And who did you work under?

6 A. The contract was only like for about three
7 months. I can't even remember the guy's name. It
8 started with a G.

9 Q. What were you to do as part of that
10 contract?

11 A. Database administration.

12 Q. What type of database was it?

13 A. Oh, all of them, all that they had,
14 whatever academic databases mainly, records.

15 Q. And you were only there for about three
16 months?

17 A. Yeah.

18 Q. And did that job or that consulting job
19 involve either designing or critiquing traffic signal
20 plans?

21 A. No.

22 Q. And where did you go after that?

23 A. Icagen.

24 Q. How do you spell that?

25 A. I-C-A-G-E-N.

1 Q. What kind of company is Icagen?

2 A. At the time, it's a bio -- it's a
3 pharmaceutical startup. They had a bunch of biologists
4 and chemists that worked together to fashion drugs,
5 potential new drugs.

6 Q. Were you an employee of Icagen or a
7 consultant?

8 A. Employee.

9 Q. What was your job?

10 A. Their IT director.

11 Q. So in charge of their computer system
12 essentially?

13 A. Yeah and their programming, yes.

14 Q. Did that job involve at all either
15 critiquing or designing traffic signal plans?

16 A. No.

17 Q. How long were you at Icagen?

18 A. One year.

19 Q. And so where did you go after that?

20 A. Accipter.

21 Q. How do you spell that?

22 A. A-C-C-I-P-T-E-R.

23 Q. Were you an employee of Accipter?

24 A. Yes.

25 Q. What was your position?

1 A. Senior software engineer.

2 Q. What type of company was Accipter?

3 A. They wrote advertising software, the
4 software that puts up pop-up ads, yes. I'm not proud
5 of that job.

6 Q. How long did you stay there?

7 A. Let's see, that was from five years.

8 Q. So we're at 1999 or so. Just tell me what
9 years did you work at Accipter?

10 A. 1999 to 2005, something like that, 2004, I
11 can't quite remember.

12 Q. And did any part of your job at Accipter
13 involve either designing or critiquing traffic signal
14 plans?

15 A. No.

16 Q. And then what did you do after Accipter?

17 A. I worked for a company called Info
18 Strength.

19 Q. Info Strength?

20 A. Yeah, Info Strength, it sounds like a pill,
21 but the pill of information, yes.

22 Q. There you go. How long did you work for
23 them?

24 A. Let's see, that was about a year and a
25 half.

1 Q. What was your position with them?

2 A. I was their IT director.

3 Q. Were you an employee?

4 A. Yes.

5 Q. And what was your job as IT director? How
6 would you describe your duties and responsibilities?

7 A. Well, primarily to get a new software
8 system out the door, to turn it into a product and then
9 had the salesman there selling.

10 Q. What was their product? What was Info
11 Strength's product?

12 A. It was called a smart enterprise suite.
13 It's a web portal so that companies can keep track of
14 their employees' time. They can do document exchanges,
15 they can project plan, sort of like a Microsoft office
16 but on the web.

17 Q. And did any of that job that you held at
18 Info Strength involve either designing or critiquing
19 traffic signal plans?

20 A. No.

21 Q. And then where did you work after Info
22 Strength?

23 A. I had -- I can't quite remember. Well, the
24 NCDOT was in there, NCDOT for six months.

25 Q. We can talk about that.

1 Do you know approximately what six-month
2 period you worked for NCDOT?

3 A. Yeah, I think it was after Info Strength
4 for six months, it was like from April 2000 -- I'm
5 forgetting, April 2006 to like August, something like
6 that.

7 Q. And when we say NCDOT, we're talking about
8 North Carolina Department of Transportation?

9 A. Yes.

10 Q. And was this as an employee or as a
11 consultant?

12 A. As a consultant.

13 Q. And did that job as a consultant involve a
14 written contract? Did you enter into a written
15 contract with NCDOT?

16 A. I was working as a consultant through
17 Matrix, they held all the contracts.

18 Q. So Matrix had a contract -- so Matrix, the
19 company called Matrix, had a contract with NCDOT?

20 A. Yes.

21 Q. Did you contract with Matrix?

22 A. Yeah, with Matrix.

23 Q. Did your contract with Matrix, was it
24 larger than just their job -- excuse me -- their
25 contract with NCDOT, or was that the entirety of your

1 contract with Matrix?

2 A. That is the -- oh --

3 Q. Did you do other things for Matrix?

4 A. Yeah, I did one other thing for Matrix,
5 yes.

6 Q. And do you recall what Matrix was
7 contracted with NCDOT to do?

8 A. Yeah, my job was to design a new enterprise
9 wide application platform using the .net framework.

10 Q. And I missed one word that you said. You
11 said, design a new something enterprise application?

12 A. Framework.

13 Q. And so what did the new framework that you
14 were designing, what was the intent of that framework,
15 to do what?

16 A. The intent was to be able to wrap all their
17 engineering projects into a consistent framework, which
18 was maintainable and fast that -- it's easier to
19 explain with an example.

20 They had like a bridge analysis program,
21 and the existing framework they had runs under Java,
22 and Java is a very slow programming range. So they
23 needed a faster way to analyze their bridge structures.

24 So to do this, you have a .net framework,
25 and it's a compiled language, so it runs much faster.

1 So instead of designing a bridge and testing its loads
2 under computer simulation, instead of taking 24 hours
3 to run a computation on it in Java, to do it in the
4 .net framework would take like five minutes.

5 So it was to be able to set up a framework
6 like that, which they can port all their engineering
7 applications to so they can get quicker results.

8 Q. So what did you physically do? What was it
9 that you did every day for that consulting job?

10 A. Was to assemble all the different pieces of
11 software together so that the framework -- it's like
12 the house framework, so that they can hang their
13 programs on it so that these things would run fast.

14 Q. Your job was not -- your job did not
15 involve analyzing any of the data, did it?

16 A. At one point it did, actually.

17 So one time my boss, his name was David
18 Alfred, he asked me to, he had a problem with the
19 traffic signal timing along Capital Boulevard in
20 Raleigh, and since he knew that I had a physics
21 background, he asked me to figure out what's wrong with
22 it? What's going on? And why aren't the signals being
23 timed correctly on Capital Boulevard?

24 And so I looked at his affidavit, and I did
25 figure out the problem. It was a boundary condition

1 problem.

2 So the software that they were running had
3 boundary condition problems after every 2,000 monitored
4 vehicles, 2,000 cars per, what was it like hour or
5 something, it had problems at every 2,000 car boundary.
6 So it was putting out crazy results in those
7 boundaries.

8 So every now and then David Alfred called
9 me to analyze the data to figure out what's wrong.

10 Q. So in that situation that you just gave an
11 example of, it was a situation where the program for
12 every 2,000 car was spewing out --

13 A. Crazy results.

14 Q. -- incorrect results?

15 A. Yeah.

16 Q. And so what did you then do? Just program
17 wise try to fix the program so that it wouldn't spit
18 out crazy results?

19 A. David Alfred couldn't -- he couldn't
20 recognize the problem. He saw the data, but he
21 couldn't recognize the problem. He knew that there was
22 a problem, but when I saw the data, I said oh, you have
23 a boundary condition problems. Boundary condition
24 problems are typical of applying physics to different
25 situations. If the boundary condition is correct, your

1 mathematical analysis of getting results just come out
2 wrong.

3 And so as a typical physics problem, and
4 just by looking at the data, I could see it, and I told
5 him oh, these are boundary condition problems at the
6 2,000 car boundary, and then he goes oh, that's right,
7 and then he went off and reprogrammed it.

8 Q. Other than that example, any other times
9 where you actually analyzed data through that --
10 actually looked and analyzed the data that you were
11 using in writing the dot program?

12 A. No.

13 Q. And did your -- did the work you did for
14 Matrix involve critiquing or designing traffic signal
15 plans?

16 A. No.

17 Q. The work you did with Matrix, did that work
18 at all bring you into -- did you have any contact with
19 any of the NCDOT engineers?

20 A. Oh, yes.

21 Q. Which ones?

22 A. David Alfred was one of them.

23 Q. Okay. So he was with NCDOT?

24 A. That's right.

25 Q. Not Matrix?

1 A. That's correct.

2 Q. Anyone else?

3 A. Several others, but I can't remember their
4 names. It's been a while. I would say maybe three or
5 four other ones.

6 Q. And Matrix, what kind of company is Matrix?

7 A. They're a computer headhunting company.
8 They get jobs for computer people who need jobs.

9 Q. And what was the other job that you had
10 through Matrix?

11 A. Soft Pro.

12 Q. What was that job?

13 A. Computer programming again, mortgage loans.

14 Q. How long did that job last?

15 A. Six months.

16 Q. And I know you don't know the exact time
17 frame or order, but what else have you done
18 professionally?

19 A. And since then, I mean, since like 2006,
20 from about 2006 on my primary job has been as a
21 consultant to Net 32.

22 Q. And what's Net 32?

23 A. Net 32 is a company that sells dental
24 products over the web.

25 Q. Where are they located?

1 A. In Cary.

2 Q. And what do you do for them?

3 A. I am their technical architect, that's
4 their title for me.

5 Q. And how would you explain to me what it is
6 you do?

7 A. I design all their software.

8 Q. Do you own or do you have ownership
9 interest in Net 32?

10 A. No.

11 Q. What else have you done besides working as
12 a consultant for -- primary consultant for Net 32
13 professionally since 2006?

14 A. That's how I make my primary -- that's it.

15 Q. Is there any other source of income?

16 A. Yeah, I have some songs out there. I'm a
17 musician. I guess royalties off of iTunes and stuff
18 with my musician buddy, Mike Collins, and his daughter.

19 Q. Any other source of income that you -- any
20 other business that you're involved with?

21 A. No.

22 Q. So the job or the consulting that you do
23 for Net 32, does that involve either designing traffic
24 signals or critiquing traffic signal plans?

25 A. No.

1 Q. And I should say designing traffic signal
2 plans or critiquing traffic signal plans?

3 A. No.

4 Q. How about, and I know the answer to this,
5 but your career as a musician or your advocacy as a
6 musician?

7 A. I still want to be a rock star, yeah. I
8 still aspire.

9 Q. Well, a lot of us do. I tried out for the
10 school play in sixth grade and got rejected.

11 So, I mean, your role as a songwriter or a
12 musician or your participation in a band has nothing to
13 do, you would agree, with either designing traffic
14 signals or critiquing traffic signal plans, correct?

15 A. Correct. Thank God it doesn't.

16 Q. How about have you taken any courses of any
17 type regarding traffic signal design?

18 A. Taken classes? No.

19 Q. Are you involved -- do you hold any type of
20 professional license?

21 A. No.

22 Q. Are you a member of any engineering
23 organization?

24 A. I'm a member of the American physical
25 Society, that's a physics organization.

1 Q. Let me just ask my question.

2 Are you a member of any engineering
3 organization?

4 A. No.

5 Q. You did say you are a member of the
6 American -- say that again?

7 A. The American Physical Society, APS for
8 short.

9 Q. How long have you been a member of APS?

10 A. A year.

11 Q. So like a year -- when did you first join?

12 A. January.

13 Q. Of this year?

14 A. Yeah, something like that.

15 Q. What was the criteria for membership?

16 A. Pay a hundred bucks.

17 Q. And have you attended any meetings or --
18 well, any meetings or conferences sponsored by APS?

19 A. No.

20 Q. Do you know if APS is -- do you have any
21 understanding of whether APS is involved at all in
22 either publishing or educating physicists or engineers
23 in traffic signal design?

24 A. Not that I'm aware of.

25 Q. Have you ever been involved in writing or

1 participating in task forces regarding best practices
2 or best engineering judgment for traffic signal design?

3 A. No.

4 Q. Have you ever applied or -- strike that.

5 In your role as a physicist, have you ever
6 submitted any articles for publication in peer-reviewed
7 journals?

8 A. Yes.

9 Q. And about how many times?

10 A. Once.

11 Q. When was that?

12 A. Oh, about two months ago.

13 Q. And what was this article? What was the
14 title of the article?

15 A. It's called Misapplied Physics in the
16 International Standards that Set Yellow Light
17 Durations -- let me look --

18 MR. STAM: Would you like a copy?

19 MS. MARTINEAU: Sure.

20 Q. Okay. So I'm going to mark what your
21 attorney just got out as Defendant's Exhibit 1.

22 (The document referred to was marked
23 Defendant's Exhibit Number 1 for
24 identification.)

25 Q. If you would kindly place this somewhere.

1 All right, Mr. Ceccarelli, what is
2 Defendant's Exhibit 1?

3 A. It's a paper describing the ITE yellow
4 light interval formula and then how it's misapplied
5 today, which forces drivers to run red lights. The
6 title of the paper is called Misapplied physics in the
7 International Standards that Set Yellow Light Durations
8 Forcing Drivers to Run Red Lights.

9 Q. I see your name, Brian Ceccarelli, right?

10 A. Yes.

11 Q. And who is Joseph Shovlin, that's the name
12 next to you?

13 A. Joseph Shovlin is the coauthor. He's a
14 Ph.D. in physics, and he's a research scientist at Cree
15 Labs.

16 Q. Where?

17 A. At Cree.

18 Q. How do you spell that?

19 A. C-R-E-E.

20 Q. Where is that located?

21 A. It's in Research Triangle Park.

22 Q. How do you know Mr. Shovlin?

23 A. He's a friend of mine.

24 Q. So you indicated about two months ago --
25 let me ask you, when did you write this paper?

1 A. I started writing it about February 2012.

2 Q. Was that after this lawsuit had been filed?

3 A. Yes.

4 Q. And of course it would have been after you
5 received your red light civil violation notice from the
6 Town of Cary?

7 A. Yes.

8 Q. And you said that you have submitted this
9 article for potential publication in a peer-reviewed
10 journal, is that right?

11 A. That's right.

12 Q. Who have you or which journal or journals
13 have you submitted this article to?

14 A. I submitted it to the American Society of
15 Civil Engineers for their journal of transportation.

16 Q. Anywhere else?

17 A. I had submitted it to Physics Today.

18 Q. Anywhere else?

19 A. No.

20 Q. Okay. You said you had submitted this
21 Exhibit 1 to Physics Today. When did you do that?

22 A. May 2012.

23 Q. Was it accepted for publication?

24 A. No, it was not.

25 Q. How were you informed it was not accepted

1 for publication?

2 A. They told me it didn't meet their editorial
3 requirements. They're looking for more unique
4 research, something on the forefronts of physics. It
5 wasn't quite their venue.

6 Q. So Physics Today, is that a peer-reviewed
7 journal?

8 A. This would not be peer-reviewed because
9 it's too simple.

10 Q. Listen to me, I'm sorry, is Physics Today a
11 peer-reviewed journal?

12 A. Physics Today is a magazine, and it's one
13 of the magazines owned by APS, and APS owns several
14 magazines. Physics Today is their -- more of their
15 general publication, but they have specific journals
16 covering different fields of physics.

17 Q. When you say they, you mean APS, right?

18 A. APS, yes.

19 Q. And you said you also submitted this
20 Exhibit 1 to the American Society of Civil Engineers,
21 the Journal of Transportation?

22 A. Yes.

23 Q. Is that a peer-reviewed journal?

24 A. Yes, being reviewed right now.

25 Q. Have you received any communications or

1 correspondence from the American Society of Civil
2 Engineers related to Exhibit 1?

3 A. Other than through their web site, no, but
4 it did pass their first step, so now it's being
5 reviewed.

6 Q. When you say it didn't pass their first
7 step, what do you mean by that?

8 A. It passed their first step. It passed does
9 it meet their editorial requirements? Yes, and since
10 it does, now it's being reviewed.

11 Q. Do you know the results of that review?

12 A. I checked this morning, and it hasn't --
13 there hasn't been any update, so it's still being
14 reviewed.

15 Q. And I think you answered this question, but
16 just so I'm clear, have you written any standards that
17 have been adopted for by any jurisdiction or by any
18 organization for designing traffic signals?

19 A. No.

20 Q. I want to ask you a little bit about
21 Exhibit 1 and the title of it, as you said, is
22 Misapplied Physics in the International Standards that
23 Set Yellow Light Durations.

24 What is or what are the international
25 standards, as you define them, in this title?

1 A. That's a good question. The international
2 standards --

3 MR. STAM: You asked the question. As
4 he's asked about this, can he refer to a
5 page if he needs to refer to a page or what
6 not?

7 MS. MARTINEAU: Sure.

8 Q. You can look at whatever you want.
9 I'm just asking you, you've used this
10 title, and I don't want you to give me what the
11 standard is just, you know, because I'm sure there's a
12 lot to it, but what do you mean by international
13 standards?

14 A. The international standards were written by
15 the Institute of Transportation Engineers, ITE, and
16 they use a formula called the yellow light change
17 interval formula, and they have a couple of other
18 standards along with that which apply to left turn
19 yellows and one that applies to approach speeds. Those
20 three things basically comprise the international
21 standards that set yellow light durations. All the
22 countries in the world use the same standard, because
23 ITE is an international organization. It's been around
24 since 1930s, so they've been around, they're all over
25 the world. So it has become the de facto standard, not

1 just in North Carolina, but everywhere.

2 Q. And how did you educate yourself as to, you
3 know, that there is something called, you know, ITE and
4 that they promulgate standards and that countries all
5 over the world adopted those standards?

6 A. Well, it all -- it started with looking at
7 Session Law 2001-286, and when I first got my red light
8 camera ticket back in November 2009, the first thing I
9 thought of when I got flashed by the camera behind me
10 is the yellow light does not abide by the laws of
11 motion, and so it's basically impossible to proceed
12 with this intersection legally, I couldn't stop,
13 there's a physics problem here. And so I wanted to
14 know what are the standards? Certainly the DOT must
15 have standards. And so I first looked at the law to
16 see if the law pointed to the standards, and it
17 certainly did.

18 And so Session Law 2001-286 pointed to the
19 NCDOT design manual, a particular spec. called sheet
20 5.2.2 page 4 of 4, and on there in one page is the
21 yellow light interval formula with all those three
22 things, and a footnote on that page referred to this
23 formula comes from ITE, the Traffic Engineering
24 Handbook, Fifth Edition, and that's how I became
25 familiar with ITE.

1 Q. Do you know what the membership
2 requirements of ITE are?

3 A. I think so. You have to be -- I'm not
4 sure, but you have to be an engineer. You have to be a
5 practicing engineering. You have to have a
6 professional -- a PE certification. You have to be
7 practicing at somewhere to be a member of ITE.

8 Q. Are you qualified to be a member of ITE?

9 A. No, because I don't work as an engineer.

10 Q. So through your investigation, you came to
11 the opinion that the NCDOT standard for designing
12 yellow change intervals was the standard promulgated by
13 ITE, is that right?

14 A. Yes, and AASTHO. They use a combination of
15 AASTHO and ITE. AASTHO, the American Association of
16 State Traffic Highway Officials.

17 Q. Are you aware of whether or not the NCDOT
18 standards that they use in designing yellow times
19 violates any international or national standard that's
20 promulgated by an engineering organization?

21 A. In most cases, the NCDOT violates its own
22 specs., yes.

23 Q. Say that one more time?

24 A. Most of the time they violate their own
25 specs.

1 Q. Who is they?

2 A. The NCDOT, when they design a traffic
3 signal plan, the values that they use for speed limits
4 or for approach speeds or for grade of road violates
5 their own standard, their one spec. this own sheet
6 5.2.2.

7 Q. Okay. And in terms -- okay.

8 So in what way does it violate -- would one
9 way be your opinion that left-hand turns, the approach
10 speed should be something other or is required to be
11 something other than 20 miles an hour?

12 A. The approach speed -- there's three
13 separate things going on here, two of them that you
14 just mentioned.

15 What I mean by the NCDOT not adhering to
16 their own spec. is that they'll use a 35 mile an hour
17 speed on the signal plan, but the posted speed limit is
18 45, so they're violating their own spec.

19 The approach speed spec. they're supposed
20 to take is another spec. that they violate, and that
21 spec. is that they're supposed to set the yellow light
22 time equal to the 85th percentile of the speed of
23 freely flowing traffic as it approaches the
24 intersection. They never do that. And so for
25 instance --

1 Q. Okay, I understand.

2 MR. STAM: Well, could he be allowed
3 to finish his answer?

4 MS. MARTINEAU: If he feels he needs
5 to explain it, but I think I understood what
6 he said.

7 MR. STAM: Wasn't there a third one?

8 A. The third one is the one you mentioned,
9 which is the 20 to 30 miles an hour is a part of the
10 NCDOT spec. but that spec. comes from an ITE paper,
11 from a 1994 ITE paper, and that spec. explicitly
12 violates the laws of motion of physics and also
13 violates the intent of the original formula as devised
14 by the inventor of the formula.

15 Q. So you gave me three things that you say
16 support, in your opinion, that NCDOT violates its own
17 standard?

18 A. Well, the third one is their standard, the
19 20 to 30 miles an hour, they don't violate that. That
20 one violates higher laws, laws of physics. The other
21 two though, they do violate their own standard with
22 that.

23 Q. So let's talk a little bit about the
24 left-hand turn approach speed that you understand NCDOT
25 uses.

1 What is your understanding of the approach
2 speed NCDOT engineers use when determining or plugging
3 into their formula to determine dedicated left turn
4 yellow times?

5 A. Right. They get that, the NCDOT gets that
6 20 to 30 miles an hour assumption from a paper called
7 Determining Signal Change Interval, written by ITE in
8 1994. And in this paper, this ITE paper, it says for
9 left turn vehicles, use -- for the approach speed, use
10 the average of the speed limit and intersection entry
11 speed as the approach speed for left turn lanes. The
12 average speed, that's the word that -- the paper says
13 use the average speed between posted speed limit and
14 the intersection entry speed.

15 So if the speed limit is 45 miles an hour
16 and the car has to slow down to 20 miles an hour in
17 order to initiate its turn, they would say use 45 plus
18 20 miles an hour divided by two, the average. So it
19 usually comes out around the upper 20s, 20, 30 miles an
20 hour, somewhere in there.

21 Q. Are you aware of whether or not using a,
22 based upon your research or your understanding as a
23 physicist, whether or not using an approach speed for
24 when designing dedicated left turn yellow times,
25 whether using an approach speed of 20 to 30 miles per

1 hour violates a promulgated standard written by any
2 engineering authority who's promulgated such standards?

3 A. That was a big sentence, if you could --

4 Q. Sure. I understand your position that you
5 think using 20 to 30 violates the laws of physics?

6 A. Yes.

7 Q. And my question is different. I'm talking
8 about agencies or countries or municipalities or states
9 that have promulgated standards, whether using an
10 assumed speed of 20 to 30 miles an hour for a dedicated
11 left yellow time is in violation of any of those
12 promulgated standards?

13 A. Using 20 to 30 miles an hour is a violation
14 of NCDOT's own spec. before 2001. The NCDOT specs.
15 change like the wind.

16 Q. So what is your answer, yes, NCDOT's
17 promulgated standard?

18 A. Prior to 2001. Or prior to -- they changed
19 their standard sometime in 2001. It used to be that
20 the protected left trigger would be set to four
21 seconds, which would be for a 40 mile an hour car. So
22 they change over time.

23 Q. Okay. Now, you would agree, I mean, I'm
24 sure in -- your training is as a physicist, right?

25 A. Right.

1 Q. Different physicists may agree on certain
2 things and may disagree on certain things, correct?

3 A. For the very complicated forefront physics,
4 yes, but this is --

5 Q. Okay. And is there such --

6 MR. STAM: If he can finish his
7 answer.

8 A. This particular item of this formula is
9 classical mechanics. It's the typical stuff -- this
10 information is covered within the first two weeks of an
11 introductory physics class. So no physicist would
12 disagree on the things that I purport in this paper.

13 Q. Do you know, I mean, now the ITE, correct,
14 in order to be a member of ITE, you have to be an
15 engineer, right?

16 A. Yes.

17 Q. Okay. And the ITE has promulgated
18 standards and guidance, correct, that you've looked at,
19 correct?

20 A. Yes.

21 Q. And papers that you've looked at?

22 A. Um-hum.

23 Q. Yes?

24 A. Yes.

25 Q. And some of those papers you would agree do

1 approve using a 20 to 30 mile an hour assumed speed for
2 dedicated yellow left turns, correct?

3 A. Yes, and I don't agree with that, but, yes,
4 they do say that, yes.

5 Q. And I understand.

6 And are you aware of a task force that ITE
7 started, I think in either 2004 or 2005, for looking at
8 NCDOT practices for designing all red clearance or red
9 times and yellow times?

10 A. Yeah, as I recall, there were some sort
11 of -- I can't remember, there was some sort of task
12 force in 2004, some guy published, some Ph.D. guy that
13 worked for the NCDOT published a paper.

14 Q. Did you review that paper in part of
15 your --

16 A. I looked at it. I didn't review that
17 paper, but I did see that paper.

18 Q. And just for the benefit of --

19 A. It may be papers.

20 Q. Just for the benefit of the court reporter,
21 Mr. Ceccarelli, if you would try to let me get my
22 question out, and then I'll let you answer, just so we
23 have a better transcript?

24 A. Okay.

25 Q. So were you aware of a task force that was

1 made up of North Carolina ITE engineers to look at the
2 practice of NCDOT regarding designing yellow times and
3 red times?

4 A. Yes, and I have to qualify that. I'm not
5 sure the resulting paper that I saw is the one you're
6 referring to.

7 Q. Are you aware of other -- have you
8 researched other states to see whether or not other
9 states' DOT or municipalities within other states use
10 an assumed speed of 20 to 30 miles an hour for
11 designing dedicated left turns for yellow times?

12 A. Yes.

13 Q. So you're aware that other states use the
14 assumption of 20 to 30 miles an hour for determining
15 yellow times for left turns?

16 A. Yes, I am.

17 Q. Give me an example of some states that
18 you've looked at?

19 A. California does and Chicago does, Virginia
20 does.

21 Q. Virginia. And are you aware that it is
22 traffic signal engineers and not -- you would agree
23 that it's traffic signal engineers and not physicists
24 who are designing traffic signals, signal plans in
25 these states, correct?

1 MR. STAM: Objection, and if I give an
2 objection, you go ahead and answer anyway.

3 A. Okay. Okay. Say that again?

4 Q. Sure. You're aware that it's traffic
5 signal engineers who design traffic signal plans and
6 not physicists?

7 A. Oh, yes, yes, and that's a sad thing.

8 May I make one comment here?

9 Q. I really just -- the purpose of a
10 deposition is for me to -- this is not the trial. The
11 purpose of this deposition is really for me to have the
12 opportunity to ask you questions. I may ask good
13 questions, I may ask bad questions, but it's my
14 prerogative to ask my questions, and all you really
15 need to do is answer the question. If you feel that
16 your answer needs an explanation, go ahead and give it.

17 Your attorney will have the opportunity to
18 ask a question that he feel he wants, but I would
19 really like you to answer my question, if it's okay
20 with you?

21 A. It's okay with me. There is one important
22 point though, if you want an understanding here. I
23 mean, you're discerning between engineers and
24 physicists and engineering, by definition, is an
25 application of physics. If you get the physics wrong,

1 you get the engineering wrong, and one is no longer
2 practicing engineering, that's all.

3 Q. And, again -- well, I appreciate that.

4 Have you ever taught any courses on traffic
5 signal plans?

6 A. No.

7 Q. Has any agency or group ever sought you out
8 to give any type of lecture or to give an opinion on
9 signal plans?

10 A. Yes.

11 Q. Who?

12 A. There's a group in Arizona.

13 Q. Who are they?

14 A. Just a group of citizens wanted to know
15 what's going on.

16 Q. Listen to my question one more time.

17 Have you ever been contacted by any
18 organization to provide -- well, I guess to provide an
19 opinion to review -- strike that.

20 Have you ever been contracted or contacted
21 by any organization to give them advice on how to
22 design traffic signal plans?

23 A. Organizations that have the power to design
24 traffic signal plans, right?

25 Q. Right. That they're about to design a

1 traffic signal plan and they want your advice as to
2 what they should do in designing such a plan?

3 A. No.

4 Q. I'm going to change gears a little bit, and
5 I kind of did -- I'm not going in the order I promised
6 to go in. That's the bad thing about making
7 predictions, but I want to ask you about this, the
8 traffic, you know, the circumstances surrounding you
9 getting a ticket or a civil violation at the Town of
10 Cary.

11 And I'm going to attach as Exhibit 2 to
12 your deposition -- I'm going to mark as Exhibit 2 a
13 copy of what I believe is your civil notice of traffic
14 violation that is part of the subject of this lawsuit.

15 (The document referred to was marked
16 Defendant's Exhibit Number 2 for
17 identification.)

18 Q. Take a look at Exhibit 2. All right
19 Mr. Ceccarelli, if you take a look at what I've marked
20 as Exhibit 2, do you recognize Exhibit 2?

21 A. Yes.

22 Q. What is Exhibit 2?

23 A. Exhibit 2 is my citation from Safelight
24 Cary that I ran a red light.

25 Q. Had you ever received -- prior to receiving

1 this notice of traffic violation, had you ever received
2 a -- like a red light camera notice of violation
3 before?

4 A. Before this one?

5 Q. Yes.

6 A. Yes, I have.

7 Q. What other times have you received a notice
8 of red light camera violation?

9 A. I can't remember the day, it's like in
10 2006.

11 Q. Where was that?

12 A. It was on Maynard Road westbound turning
13 left onto Kildaire Farm Road.

14 Q. And did you enter the intersection when the
15 light was red?

16 A. Yes.

17 Q. And what did you do when you got the notice
18 of traffic violation?

19 A. Well, this -- when I got the notice, I
20 threw it away, because the intersection was under
21 construction and the police had just come out to direct
22 traffic.

23 Q. So you threw the notice away?

24 A. Yeah, because according to the citation, it
25 says that Brad Hudson was -- who was watching the

1 videos, so certainly he would know the police are out
2 there. But they did not, so I threw away the first
3 ticket thinking that Brad Hudson was actually watching
4 the videos.

5 So a month later, I got the ticket back
6 with a \$50 extra for being late in paying, and then I
7 called up Redflex telling them look, the intersection
8 was under construction. The police had just come out
9 to direct traffic. Everybody was running a red light,
10 because there is no green light.

11 Q. And so what happened?

12 A. So Redflex says if you don't call us,
13 you're guilty, and that was the end of that, pay up.

14 Q. And so what did you do?

15 A. I paid it. I vowed never to run a red
16 light again, but I couldn't keep that promise.

17 Q. So in 2006, you made a decision within
18 yourself to try not to run any more red lights?

19 A. It's not like I habitually want to commit
20 suicide.

21 Q. I'm following up in an answer to your
22 question. You said you vowed not to run any more red
23 lights?

24 A. If I could help it. It's the usual
25 response everybody has, you know, one can avoid running

1 a red light, but.

2 Q. Let me ask you then, let's go and look at
3 Exhibit 2.

4 So other than that one in 2006, any other
5 red light camera violation notices?

6 A. No.

7 Q. Have you received any since this time?

8 A. No.

9 Q. How about have you ever been ticketed by a
10 law enforcement officer for either running a stop sign
11 or running a red light?

12 A. Never.

13 Q. Do you know in North Carolina whether or
14 not in order to violate the traffic laws of the state
15 regarding running red lights, whether you have to
16 completely proceed through the intersection before the
17 light turns red or you have to just past or, excuse me,
18 let me start over.

19 Do you know whether the traffic laws in
20 North Carolina either require someone to fully proceed
21 through the intersection before the light turns red in
22 order to avoid a violation or merely has to enter the
23 intersection before the light turns red?

24 MR. STAM: Objection to form.

25 A. Well, I know what she's getting at. North

1 Carolina is a permissive yellow state, meaning that you
2 can enter the intersection on a yellow, and you don't
3 have to clear the intersection while it is still
4 yellow.

5 Q. How do you know that? Did you look up the
6 law?

7 A. Yeah.

8 Q. And when did you look up the law? After
9 you received your citation or before?

10 A. Oh, after. Well, that's the reason why
11 North Carolina has all red intervals.

12 Q. And you're aware that other states have
13 used all red intervals, correct?

14 A. Yes.

15 Q. And the purpose of the all red interval is
16 to what?

17 A. Is to allow drivers to traverse the
18 intersection, to clear the intersection before
19 cross-traffic gets a green.

20 Q. I'm going to hand you what I'm going to
21 mark as number 3 to your deposition, and I will
22 represent to you that all number 3 is is the blow up of
23 the first photograph on page three of Exhibit 2.

24 (The document referred to was marked
25 Defendant's Exhibit Number 3 for

1 identification.)

2 Q. And Mr. Ceccarelli, this is a, obviously a
3 photocopy of the photograph, and it's in black and
4 white, but does that vehicle displayed on number 3, is
5 that your vehicle?

6 A. It's hard to tell, but, you know, sure, I
7 will say yes, but it's hard to tell though.

8 Q. Well, take a look then. Let's go back then
9 and look at Exhibit 2.

10 A. I'm not going to argue the point, that's
11 okay. We'll say it is.

12 Q. Well, okay. Do you see where it shows that
13 it says vehicle speed 50 miles an hour?

14 A. Yeah.

15 Q. Do you disagree that at the time this
16 photograph was taken, you were traveling 50 miles an
17 hour?

18 A. I probably was.

19 Q. Do you know at what point the Redflex
20 system being operated by the Town of Cary at the time
21 you received your violation, when the camera would
22 actually take a photograph of a vehicle who entered the
23 intersection on red?

24 A. When?

25 Q. Yeah, do you know if there was any delay?

1 A. Cary does not offer a grace period, if
2 that's what you're asking. I'm not sure what you're
3 asking. There is no grace period. You can get a
4 ticket a tenth of a second in the intersection or more.

5 Q. And what do you base that on?

6 A. Cary's own data.

7 Q. But have you ever spoke with anyone who's
8 operated Redflex for Cary to see at what point in time
9 would a vehicle who entered an intersection on red
10 actually have a photograph taken of that car?

11 A. Have I contacted anybody at Redflex for
12 that?

13 Q. Either Redflex or Cary?

14 A. I haven't contacted Redflex or Cary, but I
15 have seen other people's tickets who have gotten a
16 violation of one-tenth of a second. That's the finest
17 granular implement, as opposed to Raleigh, which says
18 .3 seconds is a grace period there. There's a delay
19 there.

20 Q. So that's what you base your
21 understanding -- that's what you base your
22 understanding of, your statement that Cary doesn't
23 offer a grace period, is that you've seen other
24 people's violations?

25 A. I've seen other people's violations and

1 I've seen Cary's, I mean, Raleigh's citation for
2 comparison sake.

3 Q. Where were you coming from and where were
4 you going when you got this?

5 A. I was coming home from a church fish fry,
6 that's on Chapel Hill Road and Ready Creek Road, and I
7 was going home, going eastbound on Cary Town Boulevard,
8 going to the interstate to get on 40 and go home.

9 Q. Was anyone traveling with you on this
10 night?

11 A. No.

12 Q. Approximately how many times had you
13 traveled on this intersection -- on this road through
14 this intersection before this date of 6, November,
15 2009?

16 A. Specific in Cary?

17 Q. No. How many times have you traveled on
18 this intersection?

19 A. Oh, gosh, hundreds of times.

20 Q. Hundreds of times?

21 A. Yeah.

22 Q. So you were generally familiar with the
23 intersection?

24 A. Yes.

25 Q. And have you seen the yellow time at this

1 intersection -- strike that.

2 Have you seen the traffic signals going in
3 the same direction you were going in on September --
4 excuse me, on November 6, 2009, had you seen the
5 traffic signals turn yellow in your direction of travel
6 before?

7 A. Yeah.

8 Q. Okay. So you had experienced the yellow
9 time, length of the yellow time at this intersection
10 before?

11 A. One has to arrive at the intersection at
12 the particular moment to experience a shortness.
13 Generally speaking, 99.9 percent of the time one is
14 never in this particular predicament.

15 So usually it's yellow, but I'm so close to
16 the light it's obvious, when I'm so far away from the
17 light, that it's obvious that I have to stop, but I was
18 in that precarious position where I didn't know do I
19 have the time or do I not have the time.

20 Q. Okay. That's a little bit different
21 question. But you had experienced -- you had gone
22 through or seen the yellow light at this intersection
23 before while you were traveling through it?

24 A. Sure.

25 Q. How long had you been traveling on Cary

1 Town Boulevard prior to reaching the intersection at
2 Cary Town and Convention? What distance do you think
3 you traveled on that road on November 6, 2009?

4 A. Whatever the distance is between Maynard
5 Road and -- it's like a third of a mile, something like
6 that.

7 Q. And how fast were you traveling when you
8 first turned onto Cary Town Boulevard?

9 A. When I first turned on after coming onto
10 the -- I can't remember, probably like 45, I can't
11 remember.

12 Q. And what was the other traffic -- what was
13 the traffic like? How would you describe the
14 traffic -- how light? How would you describe the
15 traffic around the time that you received the citation?

16 A. As you can see in the photograph, it's not
17 much. There's just one car in front of me, and there
18 was one car coming out of the mall. That person was
19 waiting to turn onto Cary Town Boulevard, I remember
20 that. That's all I remember.

21 Q. Do you remember what the traffic was like
22 when you first turned onto Cary Town Boulevard?

23 A. There was nobody except for that one car in
24 front of me that you see there, that was it.

25 Q. And how close were you to that one car as

1 you were going on Cary Town Boulevard?

2 A. I can't remember. I didn't even remember
3 there was a car until I saw the picture.

4 Q. So you don't really remember -- is it
5 accurate to say you don't really remember what the
6 traffic was light but you see --

7 A. All I remember there was very few people,
8 it was 9:30 at night, three cars including me. That
9 was it. It was on a Sunday night, I can't remember,
10 Friday night? Friday night, I can't remember. Friday
11 night, yeah.

12 Q. Do you recall whether you were following --
13 would you describe yourself as following the car ahead
14 of you?

15 A. No.

16 Q. As you were approaching Convention Drive on
17 November 6, 2009, were you slowing down or speeding up
18 in the ten seconds before you entered the intersection?

19 A. Ten seconds? Just probably going 45, and
20 then maybe about when I saw the yellow light go off,
21 that's when you got to make that decision do I speed up
22 so that I don't break the law, I enter into the
23 intersection while it's still yellow, or do I slam on
24 the brakes for nobody, since nobody is around. It's
25 one of those things. So I sped up 50 miles an hour,

1 it's not that much.

2 Q. How many feet from the intersection, or do
3 you know, do you know how many feet from the
4 intersection you were when you first saw the green
5 light turn yellow in your direction of travel?

6 A. Well, I mean, I know I can give an estimate
7 after the fact. I mean, nobody was really counting
8 feet before you get there, but it was probably between
9 260, 290 feet away.

10 Q. And you say you were traveling 45 miles an
11 hour at the time you first saw the yellow light?

12 A. Yeah, I was pretty relaxed that night, so
13 yeah, it's a church fish fry. I had a good time, so I
14 was just coming home.

15 Q. Were you on your cell phone during this
16 time?

17 A. No.

18 Q. Did you have a cell phone at that time back
19 in 2009?

20 A. Yeah.

21 Q. Would it have been on you, on your person?

22 A. Yeah.

23 Q. You say you were not on the phone?

24 A. Correct.

25 Q. Were you doing anything that would have

1 distracted you in any way from being able to appreciate
2 the green light turn yellow at the very moment it did?

3 A. Was I doing -- I think the answer is no, I
4 wasn't doing anything.

5 Q. Were you doing anything that would have
6 distracted you from not being able to see exactly when
7 the green light turned to yellow?

8 A. No.

9 Q. Did you do anything to slow yourself down
10 when you first saw the green light turn to yellow?

11 A. No, because it was in that spot where
12 there's hardly anybody on the road. It was on that
13 spot, should I slam on the brakes? I didn't want to
14 slam on the brakes for nobody.

15 Q. Was there anybody behind you that would
16 have rear-ended you if you would have applied the
17 brakes?

18 A. But I did need to at this point, I would
19 have needed to slam on the brakes. Nobody was around,
20 so I sped up instead.

21 Q. You knew that if you went through the
22 intersection, there was no one around that would have
23 collided with you from going straight on Convention,
24 correct?

25 A. Correct.

1 Q. And you knew that if you had stopped, there
2 was no one behind you that would have slammed into you
3 that was traveling the same direction you were
4 traveling in on Cary Town Boulevard, correct?

5 A. Correct.

6 Q. So you made the decision to speed up and go
7 through the intersection, correct?

8 A. Yes.

9 Q. And what -- you said you indicated that you
10 gave me a range that you believe yourself to be how far
11 from the intersection you believe you were after the
12 fact, is that because you determined in your mind what
13 the dilemma zone would be and decided that you had to
14 have been in the dilemma zone, and so this is the range
15 you would have been in, is that how you did that?

16 A. Yeah. As I remember the night, I wasn't in
17 any particular rush to get anywhere. And so I was
18 pretty relaxed. I wasn't speeding. I wasn't doing
19 anything crazy, out of the ordinary. So all I knew,
20 when I did go through this intersection, even at
21 50 miles an hour and the light went off behind me, I
22 was like good God, that was one fast yellow light, and
23 I realized that there was no way to proceed. There's
24 no way to proceed through this intersection and the
25 light not be red. So I must have been somewhere

1 between 260, 290 feet.

2 Q. Do you have any understanding that in fact
3 traffic signal engineers design yellow times so that
4 they will -- so that a stopping vehicle --

5 A. Has the distance to stop?

6 Q. The stopping vehicle -- that oftentimes
7 stopping vehicles will still be traveling when the
8 light goes from yellow to red?

9 A. Yes, I know that.

10 Q. And you're aware that that standard, well,
11 would you consider that a standard?

12 A. Yeah, yes.

13 Q. And you are aware that ITE -- that
14 designing yellow times in that way is acceptable to
15 ITE?

16 A. Yes, that's right, so long as they, if the
17 numbers plugged into this formula, if the numbers the
18 NCDOT plugs into the formula, the IT formula, if they
19 plugged in 45 miles an hour, yes, it gives you a
20 45 mile an hour car, the distance to stop, even though
21 it takes me twice as long time wise to stop, half that
22 time as I approach the light will be red, but I do have
23 the distance to stop, yes, for a 45 mile an hour, if
24 they plug 45 in there, yeah.

25 Q. You are aware that that is not only how

1 NCDOT engineers do it but how other engineers in the
2 state design yellow times, correct?

3 A. Correct.

4 Q. As well as other states in this country,
5 correct?

6 A. Correct.

7 Q. As well as other countries in this world,
8 right?

9 A. That's right.

10 Q. Did you ever do any experiments where you
11 went back and tried to see if you could stop, you know,
12 to try to see if your car could stop prior to entering
13 the intersection when the yellow light changed at the
14 time that you believe it did? Did you ever go back and
15 see if you could physically stop?

16 A. No. I'm sure I probably could have if I
17 wanted to slam on my brakes for nobody in the middle of
18 the night, but, you know, still, this intersection is
19 still a half second short, even according to NCDOT
20 standard, and had it been to spec., we wouldn't be
21 sitting here now.

22 Q. Did you ever go out and do any physical
23 measurements at the intersection where you received
24 your red light ticket?

25 A. Yeah, actually, yeah.

1 Q. When did you do that?

2 A. Oh, this is back in, I have a video of it,
3 something like in January, but I did go out there with
4 a stop watch the very weekend, like next day.

5 Q. But my question was regarding measurements?

6 A. Timing is a big measurement, yeah, I did.
7 That is the measurement.

8 Q. And did you go out and investigate your
9 timing -- strike that.

10 Did you go out and investigate the timing
11 as well as video back in January 2012 before --

12 A. 2012?

13 Q. Was it 2012? Let me ask you, when did you
14 go out and do timing of the intersection?

15 A. Well, this was the 6th. I went out the
16 next day was the 7th or the following weekend, I can't
17 remember, the 13th. It was either I came out on the
18 following weekend -- well, I'm sorry, ma'am. It had to
19 be after I got my citation. So whenever I got the
20 citation, it was that weekend after that when I
21 received it in the mail.

22 Q. And the purpose of the timing was to time
23 the yellow light?

24 A. Yes, I wanted to see what the timing of
25 that yellow light was and some of the other surrounding

1 yellow lights.

2 Q. Okay. Did you ever go out and measure
3 distance of the intersection in question?

4 A. No. That wasn't in question at the moment,
5 at that time.

6 Q. But my question was ever. Have you ever
7 gone out and measured the distance of the intersection
8 in question?

9 A. Of what distance? Which distance are you
10 referring to?

11 Q. Any distance in the road, a measurement of
12 any distance in that road of that intersection in
13 question?

14 A. For what distance? I mean --

15 Q. Any distance. I'm asking you did you ever
16 go out and do any measurements, other than you talked
17 about the timing. Did you ever go out and do any other
18 measurements at that intersection in question?

19 A. Distance measurements? No, there is -- no.

20 Q. And you base the assumption of the speed
21 you were going well -- strike that.

22 When you were traveling on November 6, 2009
23 prior to the intersection, did you ever look down to
24 document how fast you were going? Do you recall
25 looking at your speedometer saying oh, I'm going

1 45 miles an hour, oh, I'm going 50 miles an hour? Did
2 you ever do that?

3 A. Say that again, I was just --

4 Q. Sure, okay. You know, people give
5 estimates of speed all the time. So I'm trying to find
6 out the basis of your opinion of why you believe you
7 were going 45 miles an hour at the time the light
8 changed from green to yellow, and you've testified that
9 I was relaxed, I wasn't in a hurry and that's the basis
10 of why I believe I wasn't speeding at the time I first
11 saw the light go from green to yellow.

12 So my question is do you look at any
13 instrument in your car, do you recall looking at any
14 instrument in your car?

15 A. Yeah, I recall, I was just going 45, and,
16 you're right. I recall I was going 45, and then I saw
17 the light turn yellow. I was in that precarious
18 position, speed up.

19 Q. So it's your testimony that you actually
20 prior to the light going from green to yellow, that you
21 looked at your speedometer and saw that you were going
22 45 miles an hour, is that what you mean?

23 A. Or when it changed from green to yellow,
24 not before, but when it changed from green to yellow, I
25 recall looking at my speedometer, just accelerating a

1 little, just to make sure I cleared the intersection,
2 to get through it.

3 Q. What was the fastest that you went when you
4 decided to accel?

5 A. Probably 50.

6 Q. And do you understand -- do you have any
7 information that the length of the yellow time that you
8 experienced was any different than that which was
9 documented on the 1991 signal plan in question?

10 A. The signal -- the 1991 signal plan says --
11 is, you know, it says it's 3.8 seconds for that light,
12 then it was 3.8 seconds.

13 Q. So you didn't experience anything to make
14 you dispute that the yellow time you experienced was
15 something less than 3.8?

16 A. Right, that's correct, it's just that the
17 signal plan says 35 and it's a 45 mile an hour zone.

18 Q. Right, and we've looked at it before, and
19 you're aware that the 1991 signal plan that was at play
20 or that was controlling this intersection at Cary Town
21 Boulevard and Convention, showed a speed limit of
22 35 miles an hour, right?

23 A. Yeah, what's on the signal plan is what's
24 not on the ground, in engineering speak, so it's not
25 valid.

1 Q. Are you aware who designed that 1991 signal
2 plan? Do you know?

3 A. Yeah, Troy Peoples.

4 Q. Was he an employee of NCDOT at the time he
5 designed the signal plan?

6 A. I think so, if I remember the cache on the
7 bottom of the signal plan.

8 Q. We can take a look at it. I'm going to
9 mark this as Exhibit 4.

10 MR. STAM: Quick question, would you
11 like me to order subs for lunch or anything
12 else or --

13 (Off the record at 11:26 a.m.)

14 (On the record at 11:30 a.m.)

15 BY MS. MARTINEAU:

16 Q. Mr. Ceccarelli, I've put in front of you a
17 document or at least part of a document that I've
18 identified as Defendant's Exhibit 4, and it's not my
19 purpose today to go back and put in the record with
20 your deposition all of the signal plans that are in
21 play. I think we know which ones they are. They've
22 been produced or can be produced by NCDOT. But you
23 indicated that after you received your ticket, that you
24 did go back and look and realize that the signal plan
25 that was being utilized by NCDOT for this intersection

1 in question was a signal plan from 1991, is that right?

2 A. Yes.

3 (The document referred to was marked
4 Defendant's Exhibit Number 4 for
5 identification.)

6 Q. And I know this is a reduced copy, and I
7 know this does not show the yellow times, but is this,
8 at least from your understanding, the first -- a
9 reduced copy of that first page of the signal plan?

10 A. Yes.

11 Q. And did you live in Cary back in 1991?

12 A. Yeah, or Apex, you know.

13 Q. Do you have any factual or firsthand
14 information to dispute that the speed limit on this
15 road back in 1991 was 35 miles an hour?

16 A. Yeah, I got a document from the North
17 Carolina DOT saying that the orders for this section of
18 the road has been 45 miles an hour since 1984.

19 Q. And you got that from NCDOT?

20 A. Yes.

21 Q. Do you know when Convention -- excuse me,
22 Cary Town Boulevard in your lane of travel approaching
23 Convention Drive, when that section of the road first
24 had a posted speed limit sign of 45 miles an hour?

25 A. That section does not have a speed limit

1 sign, other than the speed limit sign that's at the
2 very beginning of the entrance, where it says 35. It's
3 a school sign, it says 35 when flashing, and it's not
4 flashing.

5 And so the other, you know, the other --
6 everywhere else on this road is a posted speed limit of
7 45, but this one approach, correct, there isn't a --
8 from this direction, there isn't a posted speed limit
9 sign of 45. The first one you see is right after this
10 intersection, and you do see one, that school speed
11 limit sign that says 35 when flashing.

12 Q. And that's presently? Are you talking what
13 you have observed presently or since your ticket?

14 A. Since I can remember. I can't remember.

15 Q. What about in 1991? Do you have a
16 firsthand knowledge or recall what --

17 A. I wasn't here in 1991. I came here in
18 1993.

19 Q. So in 1991, you did not live in Cary?

20 A. Right.

21 Q. And you would not have had the opportunity
22 to travel on this road?

23 A. In '91.

24 Q. And you would not have any firsthand
25 knowledge of what was posted or not posted on this road

1 at that time?

2 A. Right.

3 Q. Have you talked to Troy, what was it,
4 Peoples about -- have you had any opportunity to talk
5 to Troy Peoples? Have you reached out to Troy Peoples?

6 A. I've reached out, but I got no response.

7 Q. So you don't know what he might say as to
8 why he designed this signal plan the way he designed it
9 back in 1991, correct?

10 A. Correct.

11 Q. Have you familiarized yourself with the
12 manual of the uniform traffic control devices as to how
13 it relates to designing yellow times? Have you looked
14 at it?

15 A. Yeah, it doesn't say much about it, but
16 yeah, I have seen it.

17 Q. And you commented that it doesn't say much
18 about it, is that your recollection?

19 A. It only says that the yellow light times
20 have to be set according to best engineering practices,
21 and that they're usually between three and six seconds
22 times in between varying on speed limit. That's all it
23 says.

24 Q. Do you know what the definition of yellow
25 time intervals is in the 2003 or 2009 version of the

1 MUTCD? Do you know?

2 A. I knew what the definition -- I don't know
3 what the MUTCD says about the definition of the LOI,
4 but if you would enlighten me, that would be great. I
5 know what the definition is.

6 Q. When you say I know what the definition is,
7 what is your definition of a yellow change interval?
8 Or how about this, what is the purpose? What do you
9 believe the purpose of a yellow change interval is?

10 MR. STAM: May I ask you to clarify
11 which of those two questions you're asking?
12 What is the purpose, or what he believes
13 should be the purpose? So objection to
14 form. If you just restate the question.

15 MS. MARTINEAU: Sure.

16 Q. What is your understanding of the purpose
17 of a yellow change interval?

18 A. Okay. Now that I've seen the formula, I
19 know what it is, right, the yellow light, according to
20 its inventor, Denos Gazis, will give you enough time if
21 you decide from going the maximum allowable speed, will
22 give you enough distance on the onset of yellow to
23 stop, but if you're within -- when you're within the
24 critical distance, also called the safe stopping
25 distance, if you're within the critical distance, you

1 must proceed into the intersection at the maximum
2 allowable speed, you cannot decelerate, and he also
3 says that the constant and the perception of time used
4 fluctuate from person to person, from driver to driver.
5 So that there's a slop inherent in there, which will
6 cause people to either speed up or have to slam on
7 their brakes.

8 Q. So this is what your understanding of a
9 purpose of a yellow time is from research that you've
10 done?

11 A. Yeah, from reading the inventor of the
12 formula that's just -- I'm just repeating what he said.

13 Q. So you're just repeating what you --

14 A. And I understand it to be what I just said
15 too.

16 Q. Based on reading, what is that gentleman's
17 name?

18 A. Denos Gazis.

19 Q. How about the manual of the uniform traffic
20 control devices, what promulgates that manual?

21 A. You know, I don't know.

22 Q. Do you recognize or consider that manual to
23 be an authoritative source for engineering practices
24 for engineers?

25 A. Do I consider it -- engineers consider it

1 as an authoritative source.

2 Q. So you understand that, and you will not
3 disagree with that, correct?

4 A. You could certainly regard that as an
5 authoritative source.

6 Q. How about the ITE? Does the ITE regard the
7 Manual of Uniform Traffic Control Devices as an
8 authoritative source for engineers?

9 A. I'm just guessing, but I would say yeah,
10 I'm sure they do.

11 Q. Are you aware of other authoritative
12 sources that traffic control engineers utilize in North
13 Carolina or in the United States?

14 A. Yes.

15 Q. What are some of those?

16 A. The one that North Carolina DOT uses to set
17 perception times is, and the deceleration rate comes
18 from AASTHO, the American Association of State Traffic
19 Highway Officials.

20 Q. What other standards are you aware of that
21 engineers use when designing traffic control plans?

22 A. Those three sources are -- they're prime
23 for setting the timing signal, for setting the time.
24 Those are the three things that they use.

25 Q. I want to make sure I understand what those

1 three things are, it's MUTCD?

2 A. Yeah, which doesn't say much about it.

3 Q. I understand, and AASTHO?

4 A. And AASTHO.

5 Q. What else?

6 A. It's a particular publication by AASTHO, it
7 has an equally long name. They call it the green book,
8 traffic engineers call it the green book, because it's
9 green on the cover.

10 Q. Okay.

11 A. The ITE traffic engineering handbook and
12 various other.

13 Q. Okay. And as far as the length of yellow
14 times, do you know what the Manual of Uniform Traffic
15 Control Devices says about that?

16 A. Yeah, all it says is that the traffic
17 yellow times are usually between three and six seconds,
18 that's their recommendation.

19 Q. And you said earlier that you're also aware
20 that the manual requires the use of engineering
21 practices?

22 A. That's right, yes. And I think it says
23 something like higher times are used or reserved for
24 higher speeds. I think that's about the sum total of
25 what it says about yellow light times.

1 Q. Are you aware or -- are you aware that the
2 Manual of Uniform Traffic Control Devices defines
3 yellow change interval as the first interval following
4 the green interval during which the yellow sign
5 indication is displayed?

6 A. Probably says that. It has nothing to do
7 with times though, what to do when you see one. Yellow
8 comes after green, usually, except in Cary.

9 Q. I'm sorry? Are you aware that yellow
10 doesn't come after green in Cary?

11 A. Except for the left turn ones. Yeah, it
12 will go from red right to yellow from the blinking, the
13 blinking yellows, yeah, I've seen that.

14 Q. But in terms of green, have you ever seen
15 anything other than a yellow signal come after a green
16 signal?

17 A. I've seen nothing come after a green
18 signal. It will just be a solid green ball instead of
19 a green arrow.

20 Q. And at some point, that solid green ball --

21 A. Will eventually turn to yellow.

22 Q. So you're aware in Cary, at least from your
23 experience, you have green, followed by yellow,
24 correct? Yes?

25 A. Yes, most of the time. There's been one

1 case though where it's red, like when they put up the
2 new blinking.

3 Q. My question was green is followed by
4 yellow, yes?

5 A. Not here, not all the time, sometimes the
6 red goes to yellow on a turn.

7 Q. So that's red followed by yellow. What
8 about green? When you have a green light displayed,
9 what comes next?

10 A. Sometimes -- yellow. If the green is there
11 first, eventually it will turn yellow.

12 Q. Have you ever used the Manual of Uniform
13 Traffic Control Devices in any of your jobs?

14 A. No.

15 Q. How about any ITE publications? Have you
16 ever used them in any of your positions, your
17 professional positions?

18 A. In any of the ITE publications? No.

19 Q. Other than your own investigation that you
20 undertook for this case, which includes the subsequent
21 articles that you've written after receiving this
22 citation, do you have any experience in practically
23 implementing and using the Manual on Uniform Traffic
24 Control Devices or any of the guidance, guidance or
25 papers set forth by ITE?

1 A. Do I have any experience implementing them,
2 right, is that your question?

3 Q. Yes.

4 A. No.

5 Q. Do you know what the exclusive function of
6 a yellow light interval is according to ITE?

7 A. The exclusive function of a yellow light
8 interval, exclusive function? It doesn't ring any
9 bells. Would you like to tell me?

10 Q. Well, you're here to answer my questions,
11 okay. You're the one that's been designated as an
12 expert.

13 Do you know when, what MUTCD would have
14 been in effect at the time you received the civil
15 violation for your intersection in question?

16 A. The MUTCD doesn't really say much about
17 yellow lights. It never has.

18 Q. My question was, do you know what version
19 of the MUTCD, what version was in effect at the time
20 you received your civil violation?

21 A. I can't remember. They come out with a new
22 version every year.

23 Q. We can find out, but I'm asking you, do you
24 know when the 2009 version came into effect?

25 A. I don't keep track of those things, no.

1 Q. Are you aware of the different types of
2 guidance promulgated by the Manual of Uniform Traffic
3 Control Devices, the difference between a standard
4 versus a guidance? Is that anything that you're
5 familiar with?

6 A. Oh, yeah, yeah, a lot of these things are
7 guidances. Whether a jurisdiction actually adopts them
8 as a standard, that's a different question. A lot of
9 these things MUTCD are just guidances. Like the three
10 to six thing is a guidance, it's not a standard.

11 Q. Do you know when, okay, do you know when
12 NCDOT adopted using 20 to 30 miles an hour as the
13 assumed speed for -- to plug into their formula for
14 determining left-hand turn yellow change intervals?

15 A. I can't remember, but I have a hundred
16 papers on that one. I can't remember. It's like 2001,
17 something 1999, somewhere in the 1999, 2000, there's
18 like three separate sheet 5.2.2s of that NC -- one of
19 them changed.

20 Q. My question is a little bit different. My
21 question is, do you know, do you happen to know --

22 A. No.

23 Q. -- when NCDOT first adopted using an
24 assumed speed of 20 to 30 miles an hour for
25 designing --

1 A. Oh --

2 Q. Let me finish please. Left turn yellow
3 change intervals?

4 A. Okay, I just remembered. 2006 is when they
5 decided to implement it.

6 Q. Implement what?

7 A. The 20 to 30 mile an hour assumption, 2006.

8 Q. Do you know whether it was being used
9 before that?

10 A. As I recall in the spec. it says that, the
11 20 to 30 miles an hour, it's like in the spec. for
12 about four years prior to that, so then in 2006 was
13 when the DOT decided it would go around the signalized
14 intersections and change them.

15 Q. What do you base that on? How do you know
16 that?

17 A. Because I asked the DOT about this, and
18 then I actually saw the traffic signal plans change in
19 Cary. And Cary just started to reduce them to three
20 seconds in like 2009, 2008 they started reducing them.

21 Q. When you say they?

22 A. Cary.

23 Q. You are aware that NCDOT, not engineers
24 from the Town of Cary, was responsible for determining
25 yellow change intervals, correct, or do you not know

1 that?

2 A. Well, according to the -- I hear that's
3 what you're saying, but I got a document that says that
4 Cary has been in control of their own signals for many
5 years.

6 Q. Okay. Do you agree or disagree with that?

7 A. I hear what you say, but I just have a
8 different document that says otherwise.

9 Q. So you disagree --

10 A. Well, one way or another it doesn't really
11 matter, because whoever is setting the yellow light
12 intervals, the effect on the driver is the same whether
13 Cary's engineers or --

14 Q. You understand, Mr. Ceccarelli, right, that
15 you're here to answer questions that I promulgate, and
16 I may ask good questions, and I may ask dumb questions
17 as far as you're concerned.

18 MR. STAM: But he has to finish his
19 answer.

20 MS. MARTINEAU: Well, he said it
21 didn't matter. And I just want him to
22 answer my question, that's all.

23 MR. STAM: But he does get to finish
24 his answer.

25 MS. MARTINEAU: Sure.

1 MR. STAM: But the answer might be
2 more than one sentence.

3 MS. MARTINEAU: That's fine, but my
4 question was --

5 MR. STAM: We're doing real well so
6 far so let's keep going.

7 BY MS. MARTINEAU:

8 Q. I just want you to be responsive.

9 My question was, you understand -- or do
10 you not -- well, do you have an understanding of
11 whether or not -- I'm going to change it.

12 Do you agree or disagree that North
13 Carolina Department of Transportation was in charge of
14 determining yellow times for the intersections that are
15 the subject of this lawsuit?

16 A. I hear that that is what you say, but
17 that's not what I got in a document from the DOT.

18 Q. So is your answer that you disagree with
19 that?

20 A. I'm just saying that there's conflicting
21 information, so I'm out on that one.

22 Q. So you don't know?

23 A. I don't know who to believe, put it that
24 way.

25 Q. Do you know whether or not North Carolina,

1 the task force from IT that involved North Carolina
2 engineers, whether or not they did any field studies
3 regarding the approximate speeds of left-hand turn
4 drivers at intersections?

5 A. Yes, if you and I are referring to the same
6 paper, it was published in like a magazine, I can't
7 remember. There is -- there was a part of that
8 magazine that said here are the intersection entry
9 speeds. I remember seeing something like that, so.

10 Q. Okay. But you would not have been involved
11 in doing that field study, correct?

12 A. Correct.

13 Q. Are you familiar with what any of the
14 recommendations were from that field study by the North
15 Carolina task force for ITE?

16 A. You're really taxing my memory on this one.

17 Q. Again, if you don't remember, that's fine.

18 A. I just have vague recollections of what it
19 said, and part of those recollections is what they were
20 using an intersection speed as a way to justify the
21 initial speed in the left turn lane, which I've said
22 before is a physics error.

23 Q. Okay. But my question was --

24 A. That's what it said. That's all I got out
25 of it.

1 Q. I'm asking you about any recommendations.
2 The question was, are you aware of what recommendations
3 the NC ITE task force made?

4 A. Oh, I can't remember right now. I can't
5 remember. I know where to look, but I can't remember.

6 Q. Sure. And, again, you indicated earlier
7 that the ITE would be an organization that traffic
8 engineers would look to as an authoritative source,
9 right?

10 A. Yes.

11 Q. I want to show you your affidavit. I'm
12 going to mark this 5.

13 (The document referred to was marked
14 Defendant's Exhibit Number 5 for
15 identification.)

16 Q. All right, Mr. Ceccarelli, if you take a
17 look at what I've marked as 5 and the attachments to 5,
18 and just let me know if you recognize this document to
19 be your affidavit and the attachments attached to your
20 affidavit?

21 A. Yes, it looks like my affidavit.

22 Q. If you would take a look at number 16 -- go
23 ahead. Do you need to -- you want to familiarize
24 yourself with it, or I'm going to ask you some
25 questions, how about this, and if you need to take a

1 moment to familiarize yourself with your affidavit,
2 then go ahead.

3 A. That's okay. I think I'm all right.

4 Q. All right. So number 16, you say the
5 duration of the yellow light change interval at the
6 intersection of Cary Town Boulevard and Convention
7 Drive was not in full compliance with the Manual on
8 Uniform Traffic Control Devices, because it was not
9 determined with up-to-date, accurate information
10 required by engineering practices.

11 Do you see that?

12 A. Yes.

13 Q. And tell me what do you base number 16 on,
14 as to what is required by engineering practices? What
15 is the basis of that opinion?

16 A. My opinion is that engineering practices,
17 as far as the NCDOT is concerned, is to abide by the
18 specification in the NCDOT design manual, and because
19 as 35 miles an hour on this approach and all the
20 approaches to this intersection on the traffic signal
21 plan, it is not up to date nor accurate as required by
22 engineering practices.

23 Q. And, again, how do you know what
24 engineering practices require if you're not an
25 engineer?

1 A. It's a very good question.

2 Engineering -- first of all, engineering,
3 by definition in Merriam-Webster's dictionary, is
4 applied math and science, okay. Science I know, and
5 it's not applying science -- you can't use 35 miles an
6 hour and plug it into V for a formula that requires a
7 real speed. Look at the raw number.

8 Q. Any other basis for that opinion, other
9 than what you just said?

10 A. Plug in the wrong numbers into the formula
11 is bad math, it's bad physics and it's bad engineering,
12 because engineering doesn't match the physics, and even
13 in the engineering world, even without the physics,
14 what an engineer would say what's in the signal plan is
15 not what's on the ground, therefore, it's not
16 engineering practices at all.

17 Q. But you have no training in engineering
18 practices, correct?

19 A. I have training, formal training in
20 physics, and engineering is based on physics. You get
21 the physics wrong, you get the engineering wrong.

22 Q. Do you have any degree in engineering from
23 any university?

24 MR. STAM: Objection.

25 A. No.

1 Q. Have you taken post schooling? Have you
2 taken any engineering classes?

3 MS. MARTINEAU: I got your objection.

4 MR. STAM: Objection.

5 Q. Go ahead.

6 A. No.

7 Q. Are you licensed to practice engineering in
8 any state?

9 MS. MARTINEAU: Can we go off?

10 Q. You can answer the question first.

11 MR. STAM: What was the question?

12 MS. MARTINEAU: Let's go off the
13 record.

14 (Off the record at 11:57 a.m.)

15 (On the record at 12:20 p.m.)

16 BY MS. MARTINEAU:

17 Q. We're back on the record, and I just looked
18 to check what the last question was, and it just was,
19 Mr. Ceccarelli -- I'm not going to say it word for
20 word -- but Mr. Ceccarelli, you agree that you're not
21 licensed to practice engineering in any state, correct?

22 A. That's correct.

23 Q. I want to take a look at Exhibit D to your
24 affidavit, Isaac Newton versus Red Light Cameras.

25 A. Which one is that?

1 MR. STAM: May I consult with him
2 first?

3 MS. MARTINEAU: You want to take a
4 break to consult with your client?

5 MR. STAM: Just take two seconds.

6 (Off the record at 12:22 p.m.)

7 (On the record at 12:22 p.m.)

8 A. I'm not sure if this is the most up to date
9 one.

10 Q. That's fine. This is what was attached to
11 your affidavit, correct?

12 A. Yeah.

13 Q. I want to ask you a couple of questions
14 about it.

15 A. Okay. Somewhere in this I'm going to lose
16 my -- okay.

17 Q. Okay. So you have on page three, it says
18 yellow light defined, and you wrote the yellow light
19 interval equals the time it takes for a driver to
20 perceive the light turning from green to yellow plus
21 the time it takes for a driver to diverse the safe
22 braking distance at the speed limit?

23 A. Yeah.

24 Q. And it has a footnote that says one,
25 correct?

1 A. Yeah.

2 Q. Is that yes?

3 A. Yes.

4 Q. And so where did you get this from, this
5 definition of yellow light interval?

6 A. Well, according to this, it says I got it
7 from the Traffic Engineering Handbook, 6th Edition,
8 Publication TB-010B.

9 Q. Do you know if that's word for word, or
10 does that have your interpretation or opinion in that
11 paragraph as well?

12 A. I cannot remember. But in any rate, that
13 is what it is.

14 Q. Well, that's your definition of yellow
15 light interval, correct?

16 A. Yeah, it is, but -- whatever.

17 Q. And when you say in this paper,
18 Mr. Ceccarelli, for example, on page four, where it
19 says: No matter whether the driver decides to go --
20 excuse me, page four, the first full sentence: No
21 matter whether the driver decides to stop or to go, the
22 driver will run a red light.

23 Do you see that?

24 A. Yeah.

25 Q. Okay. What do you mean by run a red light?

1 What do you mean by that?

2 A. That the driver will enter the intersection
3 when the light is red.

4 Q. I wanted to see what your definition of run
5 red light is, okay.

6 A. That's a good question.

7 So if your footnote number one -- I'm going
8 to take a look at what that is.

9 Where does it show on your affidavit in
10 this exhibit where the footnotes are. Here they are
11 references, Traffic Engineering Handbook, 6th Edition,
12 Publication TB-010B, Institute of Transportation
13 Engineers, 2010, page 412, is that right? Right?

14 A. Yes.

15 MS. MARTINEAU: So I only have one
16 copy of this, and if you want, we can break
17 and make copies. Do you want to do that
18 now?

19 MR. STAM: Yeah, I will give you these
20 other things while I make that copy.

21 MS. MARTINEAU: I'm going to mark this
22 as 6, if you can make an extra copy for
23 yourself as well as Lisa, I appreciate that.

24 (The document referred to was marked
25 Defendant's Exhibit Number 6 for

1 identification.)

2 (Off the record at 12:26 p.m.)

3 (On the record at 12:28 p.m.)

4 BY MS. MARTINEAU:

5 Q. So Mr. Ceccarelli, I'm handing you what
6 I've marked as Defendant's Exhibit 6. This says
7 Traffic Engineering Handbook, 6th Edition.

8 Is this the document referred to in your
9 footnote one?

10 A. It's part of the document, yes.

11 Q. Your footnote one refers to Traffic
12 Engineering Handbook, 6th Edition, Publication TB-010B,
13 Institute of Transportation Engineers, 2010, page 412,
14 correct?

15 A. Yeah.

16 Q. And this document is the 2010 Institute --
17 excuse me, Defendant's Exhibit 6 is or contains page
18 412 of the Traffic Engineering Handbook, 6th Edition,
19 2010 Institute of Transportation Engineers, Publication
20 TB-010B and contains page 412, correct?

21 A. Um-hum.

22 Q. Yes?

23 A. Yes.

24 Q. And you see where it has yellow change
25 interval?

1 A. Yes.

2 Q. Okay. And do you agree that it says: The
3 purpose of the yellow change interval, which is
4 required to be the first interval following every
5 circular green or green arrow indication, is to warn
6 approaching vehicle of the termination of the related
7 green interval or that a red signal indication will
8 follow?

9 A. Yes.

10 Q. Mr. Ceccarelli, a moment ago we were off
11 the record, and your attorney handed me some documents
12 that I do want to identify for the record as part of
13 your deposition.

14 I'm probably not going to ask questions
15 about them, but I just want them to be attached.

16 So we're going to put the 2012, it's called
17 derivation of the yellow light interval equation as
18 Exhibit 7 to your deposition.

19 (The document referred to was marked
20 Defendant's Exhibit Number 7 for
21 identification.)

22 Q. Response to Vanasse-Hangen-Brustlin
23 Comments on Brian Ceccarelli's Derivation of the Yellow
24 Light Equation, by Brian Ceccarelli, as Defendant's
25 Exhibit 8.

1 (The document referred to was marked
2 Defendant's Exhibit Number 8 for
3 identification.)

4 Q. And then a document entitled: The Problem
5 of The Amber Signal Light In Traffic Flow, dated or it
6 says received November 27, 1959, as Defendant's Exhibit
7 9.

8 (The document referred to was marked
9 Defendant's Exhibit Number 9 for
10 identification.)

11 Q. And a moment ago, Mr. Ceccarelli, you
12 indicated that what we've marked as Exhibit 1.

13 A. Oh, okay.

14 Q. Which is the Misapplied Physics in the
15 International Standards that Set Yellow Light Durations
16 Forces Drivers to Run Red Lights is basically, you
17 know, you said is your definitive opinion on this
18 subject in a nutshell, is that fair?

19 A. Yes.

20 Q. And we looked at it before, but just so I
21 understand, I want to make sure that something, you
22 know, that what you're saying, at least part of what
23 you're saying in here, that my conclusions about these
24 statements are correct.

25 So you have, and, again, this Exhibit 1 is

1 what you submitted to an engineering journal but have
2 not yet received a decision as to whether or not
3 they're going to publish it, correct?

4 A. Correct.

5 Q. And this document, Exhibit 1, has not been
6 peer-reviewed yet, correct?

7 A. It's being peer-reviewed right now.

8 Q. Okay. And well, it's being looked at to
9 determine whether or not it will be published, correct?

10 A. Correct.

11 Q. And so since it's not been published,
12 there's not been any critique in the literature one way
13 or the other about what you've written here, correct?

14 A. That's correct.

15 Q. Okay. And so, again, you acknowledge in
16 Exhibit 1 that there are international standards that
17 traffic engineers use to set yellow light durations,
18 correct?

19 A. Yes.

20 Q. Okay. And that part -- and that you also
21 acknowledge that part of the international standards
22 used assume a traveling speed of 20 to 30 miles per
23 hour for left-hand turns?

24 A. Let me look to see if the document
25 addresses that.

1 Q. And I'm not asking if this document
2 addresses that. I'm just saying that you acknowledge
3 that the international standards that traffic engineers
4 use to set yellow light durations include assuming a
5 speed of 20 to 30 miles an hour, a traveling speed of
6 20 to 30 miles an hour for left turns when determining
7 yellow times?

8 MR. STAM: Objection to form. Can I
9 tell you why?

10 MS. MARTINEAU: No, that's okay. He
11 can answer.

12 A. Okay. I am saying that there is a standard
13 the ITE has in a 1994 document that says one can assume
14 that cars are moving 20 to 30 miles an hour
15 approaching -- who intend to turn left. There is that
16 standard that does say that. Whether that's what's
17 used around the world, I can only take a guess, but
18 California and Virginia, they use the same three second
19 left turn yellow as North Carolina does, while the
20 straight through is four and a half it's the same sort
21 of thing.

22 Q. You testified to that earlier, that you
23 were aware of other jurisdictions using a calculation
24 of 20 to 30, or, excuse me, you were aware of other
25 jurisdictions that use an assumed speed of 20 to

1 30 miles an hour when making a determination of how
2 long dedicated left yellow times should be?

3 A. Essentially that's correct, but they
4 don't -- these other states don't say it in their spec.

5 Q. I didn't ask if they said it. I just asked
6 if it was used?

7 A. I can't tell. All I know is they just set
8 them three seconds like North Carolina. Whether they
9 use the 23 and plug in a number to get three seconds,
10 or if they are just using the minimum MUTCD.

11 Q. I see. Have you looked into it to
12 determine --

13 A. Whether they use it?

14 Q. -- whether it's a standard adopted by other
15 states in this country?

16 A. I haven't seen an explicit declaration of
17 the 20 to 30 mile an hour assumption in any state's
18 design manual. All I see is the three second yellow
19 that they use. I see that, but they don't say where it
20 comes from.

21 Q. Okay. And what about obviously North
22 Carolina has licensed engineers that design signals
23 that work for organizations other than North Carolina
24 Department of Transportation, correct? Are you aware
25 of that?

1 A. They design signals for other jurisdictions
2 than North Carolina?

3 Q. No. You're aware that there are private
4 engineers who are not employed by NCDOT that design
5 signal plans, including yellow times, correct?

6 A. Yes.

7 Q. And do you know whether or not those
8 private engineers use an assumed speed of 20 to
9 30 miles an hour when determining how long a dedicated
10 left turn yellow time should be? Do you know?

11 A. Yes, by looking at the signal plans, I know
12 that they do implement that standard in the signal
13 plan.

14 MS. MARTINEAU: Thank you,
15 Mr. Ceccarelli. Those are the questions I
16 have for you.

17 MR. STAM: No questions.

18 (Whereupon the deposition was
19 concluded at 12:38 p.m.)

20 (Signature reserved.)

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SIGNATURE PAGE

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BRIAN CECCARELLI

SUBSCRIBED AND SWORN to before me this _____
day of _____, 2012

NOTARY PUBLIC

My Commission expires: _____

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C E R T I F I C A T E

I, Marisa Munoz-Vourakis, RMR, CRR and Notary Public, the officer before whom the foregoing proceeding was conducted, do hereby certify that the witness(es) whose testimony appears in the foregoing proceeding were duly sworn by me; that the testimony of said witness(es) were taken by me to the best of my ability and thereafter transcribed under my supervision; and that the foregoing pages, inclusive, constitute a true and accurate transcription of the testimony of the witness(es).

I do further certify that I am neither counsel for, related to, nor employed by any of the parties to this action in which this proceeding was conducted, and further, that I am not a relative or employee of any attorney or counsel employed by the parties thereof, nor financially or otherwise interested in the outcome of the action.

IN WITNESS WHEREOF, I have hereunto subscribed my name this of , 2012.

MARISA MUNOZ-VOURAKIS

Notary #20032900127

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TRANSCRIPTION

MMV

CASE NAME: Ceccarelli vs. Town of Cary

WITNESS NAME: BRIAN CECCARELLI

DATE: September 4, 2012

PAGE	LINE	READS	SHOULD READ
11	9	Delete "So you use wave guides"	
13	11	okay, so the job came the end of mission and no fault	okay, so the job came to the end of mission, at no fault
13	14	here I am	"here I am"
13	16	and ended the mission, which	"End of mission" which
16	3	Yeah, some computer.	Yeah, some computer department.
19	8,9	. . .into a product and then had the salesman there selling.	into a product the salesman could sell.
21	22	range	language
22	5	So it was to be able to set up a framework	So I was to set up a framework
22	18	Alfred	Alford
22	24	affidavit	data
23	6	in	at
23	25	If the boundary condition is correct, your	If the boundary conditions are not taken into account, your
24	22	Alfred	Alford
26	17	guess	get

PAGE	LINE	READS	SHOULD READ
30	4	Delete "how"	
30	8	Forcing	Forces
35	12	Delete "with"	
60	18	IT	ITE
64	18	speed	sped
65	11,12	Delete "3.8"	"4.0"
68	10,11	Delete "that school speed limit sign that says 35 when flashing"	"that says 45 mph."
72	22	they're prime	they're prime sources