

Case No. 78701

**In the Supreme Court of Nevada**

MOTOR COACH INDUSTRIES, INC.,

Appellant,

vs.

KEON KHIABANI; ARIA KHIABANI, MINORS, by  
and through their Guardian MARIE-CLAUDE  
RIGAUD; SIAMAK BARIN, as Executor of the  
Estate of KAYVAN KHIABANI, M.D.; the Estate of  
KAYVAN KHIABANI; SIAMAK BARIN, as  
Executor of the Estate of KATAYOUN BARIN,  
DDS; and the Estate of KATAYOUN BARIN, DDS,

Respondents.

Electronically Filed  
Dec 04 2019 06:03 p.m.  
Elizabeth A. Brown  
Clerk of Supreme Court

**APPEAL**

from the Eighth Judicial District Court, Clark County  
The Honorable ADRIANA ESCOBAR, District Judge  
District Court Case No. A-17-755977-C

**APPELLANT'S APPENDIX  
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			36	8751–8822
98	Jury Trial Transcript	03/19/18	36 37	8842–9000 9001–9075
35	Motion for Determination of Good Faith Settlement Transcript	12/07/17	9	2101–2105
22	Motion for Summary Judgment on Foreseeability of Bus Interaction with Pedestrians or Bicyclists (Including Sudden Bicycle Movement)	10/27/17	3	589–597
26	Motion for Summary Judgment on Punitive Damages	12/01/17	3	642–664
117	Motion to Retax Costs	04/30/18	47 48	11743–11750 11751–11760
58	Motions in Limine Transcript	01/29/18	12 13	2998–3000 3001–3212
61	Motor Coach Industries, Inc.’s Answer to Second Amended Complaint	02/06/18	14	3474–3491
90	Motor Coach Industries, Inc.’s Brief in Support of Oral Motion for Judgment as a Matter of Law (NRCP 50(a))	03/12/18	32 33	7994–8000 8001–8017
146	Motor Coach Industries, Inc.’s Motion for a Limited New Trial (FILED UNDER SEAL)	05/07/18	51	12673–12704
30	Motor Coach Industries, Inc.’s Motion for Summary Judgment on All Claims Alleging a Product Defect	12/04/17	6 7	1491–1500 1501–1571
145	Motor Coach Industries, Inc.’s Motion to Alter or Amend Judgment to Offset Settlement Proceed Paid by Other Defendants (FILED UNDER SEAL)	05/07/18	51	12647–12672
96	Motor Coach Industries, Inc.’s Opposition to Plaintiff’s Trial Brief Regarding Admissibility of Taxation Issues and Gross Versus Net Loss Income	03/18/18	36	8823–8838
52	Motor Coach Industries, Inc.’s Pre-Trial Disclosure Pursuant to NRCP 16.1(a)(3)	01/19/18	12	2753–2777

120	Motor Coach Industries, Inc.'s Renewed Motion for Judgment as a Matter of Law Regarding Failure to Warn Claim	05/07/18	48 49	11963–12000 12001–12012
47	Motor Coach Industries, Inc.'s Reply in Support of Its Motion for Summary Judgment on All Claims Alleging a Product Defect	01/17/18	11	2705–2719
149	Motor Coach Industries, Inc.'s Reply in Support of Motion to Alter or Amend Judgment to Offset Settlement Proceeds Paid by Other Defendants (FILED UNDER SEAL)	07/02/18	52	12865–12916
129	Motor Coach Industries, Inc.'s Reply in Support of Renewed Motion for Judgment as a Matter of Law Regarding Failure to Warn Claim	06/29/18	50	12282–12309
70	Motor Coach Industries, Inc.'s Response to “Bench Brief on Contributory Negligence”	02/16/18	19	4728–4747
131	Motor Coach Industries, Inc.'s Response to “Plaintiffs’ Supplemental Opposition to MCI’s Motion to Alter or Amend Judgment to Offset Settlement Proceeds Paid to Other Defendants”	09/24/18	50	12322–12332
124	Notice of Appeal	05/18/18	49	12086–12097
139	Notice of Appeal	04/24/19	50	12412–12461
138	Notice of Entry of “Findings of Fact and Conclusions of Law on Defendant’s Motion to Retax”	04/24/19	50	12396–12411
136	Notice of Entry of Combined Order (1) Denying Motion for Judgment as a Matter of Law and (2) Denying Motion for Limited New Trial	02/01/19	50	12373–12384
141	Notice of Entry of Court’s Order Denying Defendant’s Motion to Alter or Amend Judgment to Offset Settlement Proceeds Paid by Other	05/03/19	50	12480–12489

	Defendants Filed Under Seal on March 26, 2019			
40	Notice of Entry of Findings of Fact Conclusions of Law and Order on Motion for Determination of Good Faith Settlement	01/08/18	11	2581–2590
137	Notice of Entry of Findings of Fact, Conclusions of Law and Order on Motion for Good Faith Settlement	02/01/19	50	12385–12395
111	Notice of Entry of Judgment	04/18/18	42	10365–10371
12	Notice of Entry of Order	07/11/17	1	158–165
16	Notice of Entry of Order	08/23/17	1	223–227
63	Notice of Entry of Order	02/09/18	15	3511–3536
97	Notice of Entry of Order	03/19/18	36	8839–8841
15	Notice of Entry of Order (CMO)	08/18/17	1	214–222
4	Notice of Entry of Order Denying Without Prejudice Plaintiffs’ Ex Parte Motion for Order Requiring Bus Company and Bus Driver to Preserve an Immediately Turn Over Relevant Electronic Monitoring Information from Bus and Driver Cell Phone	06/22/17	1	77–80
13	Notice of Entry of Order Granting Plaintiffs’ Motion for Preferential Trial Setting	07/20/17	1	166–171
133	Notice of Entry of Stipulation and Order Dismissing Plaintiffs’ Claims Against Defendant SevenPlus Bicycles, Inc. Only	10/17/18	50	12361–12365
134	Notice of Entry of Stipulation and Order Dismissing Plaintiffs’ Claims Against Bell Sports, Inc. Only	10/17/18	50	12366–12370
143	Objection to Special Master Order Staying Post-Trial Discovery Including May 2, 2018 Deposition of the Custodian of Records of the Board of Regents NSHE and, Alternatively, Motion for Limited Post-Trial	05/03/18	51	12495–12602

	Discovery on Order Shortening Time (FILED UNDER SEAL)			
39	Opposition to “Motion for Summary Judgment on Foreseeability of Bus Interaction with Pedestrians of Bicyclists (Including Sudden Bicycle Movement)”	12/27/17	11	2524–2580
123	Opposition to Defendant’s Motion to Retax Costs	05/14/18	49	12039–12085
118	Opposition to Motion for Limited Post-Trial Discovery	05/03/18	48	11761–11769
151	Order (FILED UNDER SEAL)	03/26/19	52	12931–12937
135	Order Granting Motion to Dismiss Wrongful Death Claim	01/31/19	50	12371–12372
25	Order Regarding “Plaintiffs’ Motion to Amend Complaint to Substitute Parties” and “Countermotion to Set a Reasonable Trial Date Upon Changed Circumstance that Nullifies the Reason for Preferential Trial Setting”	11/17/17	3	638–641
45	Plaintiffs’ Addendum to Reply to Opposition to Motion for Summary Judgment on Foreseeability of Bus Interaction with Pedestrians or Bicyclists (Including Sudden Bicycle Movement)”	01/17/18	11	2654–2663
49	Plaintiffs’ Joinder to Defendant Bell Sports, Inc.’s Motion for Determination of Good Faith Settlement on Order Shortening Time	01/18/18	11	2735–2737
41	Plaintiffs’ Joint Opposition to Defendant’s Motion in Limine No. 3 to Preclude Plaintiffs from Making Reference to a “Bullet Train” and to Defendant’s Motion in Limine No. 7 to Exclude Any Claims That the Motor Coach was Defective Based on Alleged Dangerous “Air Blasts”	01/08/18	11	2591–2611

37	Plaintiffs' Joint Opposition to MCI Motion for Summary Judgment on All Claims Alleging a Product Defect and to MCI Motion for Summary Judgment on Punitive Damages	12/21/17	9	2129–2175
50	Plaintiffs' Motion for Determination of Good Faith Settlement with Defendants Michelangelo Leasing Inc. d/b/a Ryan's Express and Edward Hubbard Only on Order Shortening Time	01/18/18	11	2738–2747
42	Plaintiffs' Opposition to Defendant's Motion in Limine No. 13 to Exclude Plaintiffs' Expert Witness Robert Cunitz, Ph.D. or in the Alternative to Limit His Testimony	01/08/18	11	2612–2629
43	Plaintiffs' Opposition to Defendant's Motion in Limine No. 17 to Exclude Claim of Lost Income, Including the August 28 Expert Report of Larry Stokes	01/08/18	11	2630–2637
126	Plaintiffs' Opposition to MCI's Motion to Alter or Amend Judgment to Offset Settlement Proceeds Paid by Other Defendants	06/06/18	49	12104–12112
130	Plaintiffs' Supplemental Opposition to MCI's Motion to Alter or Amend Judgment to Offset Settlement Proceeds Paid by Other Defendants	09/18/18	50	12310–12321
150	Plaintiffs' Supplemental Opposition to MCI's Motion to Alter or Amend Judgment to Offset Settlement Proceeds Paid by Other Defendants (FILED UNDER SEAL)	09/18/18	52	12917–12930
122	Plaintiffs' Supplemental Verified Memorandum of Costs and Disbursements Pursuant to NRS 18.005, 18.020, and 18.110	05/09/18	49	12019–12038

91	Plaintiffs' Trial Brief Regarding Admissibility of Taxation Issues and Gross Versus Net Loss Income	03/12/18	33	8018–8025
113	Plaintiffs' Verified Memorandum of Costs and Disbursements Pursuant to NRS 18.005, 18.020, and 18.110	04/24/18	42	10375–10381
105	Proposed Jury Instructions Not Given	03/23/18	41	10207–10235
109	Proposed Jury Verdict Form Not Used at Trial	03/26/18	42	10298–10302
57	Recorder's Transcript of Hearing on Defendant's Motion for Summary Judgment on All Claims Alleging a Product Defect	01/23/18	12	2818–2997
148	Reply in Support of Motion for a Limited New Trial (FILED UNDER SEAL)	07/02/18	52	12755–12864
128	Reply on Motion to Retax Costs	06/29/18	50	12269–12281
44	Reply to Opposition to Motion for Summary Judgment on Foreseeability of Bus Interaction with Pedestrians or Bicyclists (Including Sudden Bicycle Movement)"	01/16/18	11	2638–2653
46	Reply to Plaintiffs' Opposition to Motion for Summary Judgment on Punitive Damages	01/17/18	11	2664–2704
3	Reporter's Transcript of Motion for Temporary Restraining Order	06/15/17	1	34–76
144	Reporter's Transcript of Proceedings (FILED UNDER SEAL)	05/04/18	51	12603–12646
14	Reporter's Transcription of Motion for Preferential Trial Setting	07/20/17	1	172–213
18	Reporter's Transcription of Motion of Status Check and Motion for Reconsideration with Joinder	09/21/17	1 2	237–250 251–312
65	Reporter's Transcription of Proceedings	02/13/18	16 17	3818–4000 4001–4037
66	Reporter's Transcription of Proceedings	02/14/18	17 18	4038–4250 4251–4308

68	Reporter's Transcription of Proceedings	02/15/18	18	4315–4500
69	Reporter's Transcription of Proceedings	02/16/18	19	4501–4727
72	Reporter's Transcription of Proceedings	02/20/18	20 21	4809–5000 5001–5039
73	Reporter's Transcription of Proceedings	02/21/18	21	5040–5159
74	Reporter's Transcription of Proceedings	02/22/18	21 22	5160–5250 5251–5314
77	Reporter's Transcription of Proceedings	02/23/18	22 23	5328–5500 5501–5580
78	Reporter's Transcription of Proceedings	02/26/18	23 24	5581–5750 5751–5834
79	Reporter's Transcription of Proceedings	02/27/18	24 25	5835–6000 6001–6006
80	Reporter's Transcription of Proceedings	02/28/18	25	6007–6194
81	Reporter's Transcription of Proceedings	03/01/18	25 26	6195–6250 6251–6448
82	Reporter's Transcription of Proceedings	03/02/18	26 27	6449–6500 6501–6623
83	Reporter's Transcription of Proceedings	03/05/18	27 28	6624–6750 6751–6878
86	Reporter's Transcription of Proceedings	03/07/18	29 30	7045–7250 7251–7265
88	Reporter's Transcription of Proceedings	03/09/18	30 31	7424–7500 7501–7728
89	Reporter's Transcription of Proceedings	03/12/18	31 32	7729–7750 7751–7993
99	Reporter's Transcription of Proceedings	03/20/18	37 38	9076–9250 9251–9297
100	Reporter's Transcription of Proceedings	03/21/18	38 39	9298–9500 9501–9716
101	Reporter's Transcription of Proceedings	03/21/18	39 40	9717–9750 9751–9799



102	Reporter's Transcription of Proceedings	03/21/18	40	9800–9880
103	Reporter's Transcription of Proceedings	03/22/18	40 41	9881–10000 10001–10195
104	Reporter's Transcription of Proceedings	03/23/18	41	10196–10206
24	Second Amended Complaint and Demand for Jury Trial	11/17/17	3	619–637
107	Special Jury Verdict	03/23/18	41	10237–10241
112	Special Master Order Staying Post-Trial Discovery Including May 2, 2018 Deposition of the Custodian of Records of the Board of Regents NSHE	04/24/18	42	10372–10374
62	Status Check Transcript	02/09/18	14 15	3492–3500 3501–3510
17	Stipulated Protective Order	08/24/17	1	228–236
121	Supplement to Motor Coach Industries, Inc.'s Motion for a Limited New Trial	05/08/18	49	12013–12018
60	Supplemental Findings of Fact, Conclusions of Law, and Order	02/05/18	14	3470–3473
132	Transcript	09/25/18	50	12333–12360
23	Transcript of Proceedings	11/02/17	3	598–618
27	Volume 1: Appendix of Exhibits to Motion for Summary Judgment on Punitive Damages	12/01/17	3 4	665–750 751–989
28	Volume 2: Appendix of Exhibits to Motion for Summary Judgment on Punitive Damages	12/01/17	4 5	990–1000 1001–1225
29	Volume 3: Appendix of Exhibits to Motion for Summary Judgment on Punitive Damages	12/01/17	5 6	1226–1250 1251–1490

1 MR. HENRIOD: -- and then we'll make all  
2 the arguments and stuff --

3 THE COURT: That's why I wrote it out.  
4 Okay. That's the substantial -- that was the  
5 causation issue.

6 I've run out of ink.

7 All right. Now, with respect to  
8 disfigurement. Okay. We've had a lot -- we've  
9 had the testimony and we were talking about  
10 disfigurement on Sunday when we met off of the  
11 record. I'm generalizing. I don't want to speak  
12 for you.

13 The plaintiffs contend that  
14 disfigurement should be a line item, at least,  
15 with respect to Dr. Khiabani. And the defense  
16 says no because -- I'm paraphrasing -- he didn't  
17 have to live with it. And, actually, the  
18 disfigurement would go to Dr. Khiabani, not his  
19 heirs, if I'm correct. The disfigurement award  
20 would go to Dr. Khiabani's estate, not that of his  
21 heirs; is that correct?

22 MR. HENRIOD: That's not our objection,  
23 although --

24 THE COURT: You know what? It's better  
25 if you put your objections on the record instead

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1 of my paraphrasing it.

2 MR. HENRIOD: Do you want to clarify  
3 that now or are we discussing just to make the  
4 record?

5 THE COURT: No. Make the record so that  
6 I can decide.

7 MR. HENRIOD: Oh, so that you can  
8 decide.

9 THE COURT: Yeah. I'm trying to decide  
10 so we can move forward.

11 MR. KEMP: Okay. Judge, on their  
12 verdict form -- and I've agreed to use the damages  
13 portion to make a little progress on this -- the  
14 disfigurement and the pain and suffering would  
15 both be divided between the heirs.

16 THE COURT: Okay.

17 MR. ROBERTS: We agree with that, Your  
18 Honor.

19 MR. HENRIOD: So the issue is whether or  
20 not it's a case of disfigurement since he didn't  
21 have to live with the disfigurement for any period  
22 of time, that it's not about mutilation of the  
23 body. It's not about how messy the death is. And  
24 I hate to be indelicate.

25 THE COURT: No. I understand. All

1 right.

2 So, frankly, I've gone back and forth on  
3 this, but even though we've talked about -- I  
4 don't want to go into the details, but a very  
5 short period of time to a little bit longer, I  
6 think this is a question for the jury to decide.  
7 So I'm going to allow it to stay in, and the jury  
8 can make a decision on that.

9 MR. KEMP: Judge, we agree to have a  
10 separate line item. So if the Court wants to  
11 weigh in on a separate line item, it's an easy  
12 thing to address.

13 THE COURT: Okay. Very good.

14 Is there anything else that I need to  
15 decide? We have the --

16 MR. HENRIOD: There are the elements in  
17 the product defect, right, in the paragraph saying  
18 which one they need to address and which one is  
19 not.

20 MR. PEPPERMAN: I thought we agreed on  
21 that one.

22 THE COURT: I thought we agreed on that.  
23 Why don't you put that on the record, please.

24 MR. PEPPERMAN: We just agree to list  
25 the elements out, the ones that were at issue, so

1 not -- it was whether the product was defective,  
2 whether the defect existed at the time the bus was  
3 sold, and whether the defect caused the injuries.

4 THE COURT: Right.

5 MR. PEPPERMAN: And after the  
6 elements -- the judge has already ruled on  
7 foreseeable as a matter of law.

8 MR. HENRIOD: So that element is out.

9 MR. PEPPERMAN: And the first element --

10 MR. HENRIOD: 2 is in.

11 MR. PEPPERMAN: 2, 3, and 5 are the  
12 elements that are in. And we're only giving those  
13 elements.

14 THE COURT: And that's this case?

15 MR. PEPPERMAN: This case.

16 THE COURT: So that we don't try to  
17 change the law forever.

18 MR. PEPPERMAN: There's no dispute that  
19 MCI sold the bus. There was no dispute, based on  
20 the Court's summary judgment ruling, that this was  
21 a foreseeable use or misuse of the product.

22 So all that's at issue is the three  
23 remaining: Was it defective? What did the defect  
24 exist when it was sold? And did the defect cause  
25 the injury?

1           And then we also added that line to  
2 resolve the -- one of our special instructions to  
3 say that we don't need to prove negligence. And  
4 that's what that instruction says.

5           THE COURT: Right. And you came up with  
6 that during -- I think, yesterday or the day  
7 before. And I thought that was really -- you work  
8 together really well and very quickly. So I was  
9 very happy about that. That could have taken  
10 another 45 minutes, you know. Just saying.

11           MR. HENRIOD: I think we wanted  
12 "conscious" before "pain and suffering." And  
13 that's one you had taken under advisement too,  
14 whether or not we put that adjective in there.

15           THE COURT: I'd like you to place your  
16 thoughts, your different thoughts --

17           MR. HENRIOD: You want those again?

18           THE COURT: On the record.

19           MR. HENRIOD: Oh, okay. And this gets  
20 back to we're going to have to do all of this  
21 again once we have that set complete?

22           THE COURT: Right.

23           MR. PEPPERMAN: Well, Your Honor, I  
24 think with that one, I thought we had resolved it.  
25 Maybe I'm misremembering, but I don't think we put

1 it in the stock instruction. We didn't modify the  
2 stock, but we did agree to the special  
3 instructions that says about pain and suffering,  
4 conscious, and aware.

5 MR. HENRIOD: All right. So we are  
6 inserting.

7 MR. KEMP: Yes.

8 THE COURT: I didn't think we had very  
9 much left. I don't mind if we have to review  
10 more, but it was my impression that we were down  
11 to just a couple of things.

12 MR. PEPPERMAN: I think the other one I  
13 have on my notes is that we agreed to use their  
14 "clear and convincing" stock instruction.

15 THE COURT: Yes.

16 MR. PEPPERMAN: But we modified it a  
17 little bit in the last sentence. And then there  
18 was a dispute over whether the last sentence  
19 should be -- or whether the last line of the last  
20 sentence should be included.

21 It says "or evidence" -- it defines  
22 clear and convincing evidence, and then it says,  
23 "Or evidence which must be so clear as to leave no  
24 substantial doubt."

25 And we thought that was contradictory of

1 the previous definition of clear and convincing,  
2 and we asked that that be excluded. I think they  
3 wanted it to be included. So that was the only  
4 other.

5 MR. HENRIOD: Do you have a ruling on  
6 that?

7 THE COURT: I forgot about that one,  
8 frankly. I have to go through, like --

9 MS. WORKS: I thought, Your Honor -- and  
10 maybe I'm misstating, but I thought we had agreed  
11 instead of the substantial -- well, are you on the  
12 clear and convincing?

13 MR. HENRIOD: It's this one right here.

14 THE COURT: You can point me to which  
15 one that is.

16 MR. PEPPERMAN: It's page 23 of their --  
17 I believe it's page 23 of their stock  
18 instructions.

19 THE COURT: Of the stock?

20 MR. PEPPERMAN: Of MCI's stock  
21 instructions.

22 THE COURT: Just a second.

23 MR. HENRIOD: Okay. So it's the last  
24 sentence paragraph.

25 THE COURT: Stock page 23. Hold on.



1 I'm almost there.

2 I have a note, "Use this instead of  
3 stock?" Okay.

4 MR. HENRIOD: And then the only other  
5 issue is whether or not we stop after "highly  
6 likely" period or, as we propose, we go further  
7 and say "or evidence which must be so clear as to  
8 leave no substantial doubt."

9 And I think that, as punitives are  
10 quasi-criminal, that they understand really how  
11 highly likely "highly likely" means.

12 MS. WORKS: Your Honor, I think our  
13 concern there is that leaving "no substantial  
14 doubt" borders very close to proof beyond a  
15 reasonable doubt, which based on movies, TV,  
16 everyday life, a juror is going to be most  
17 familiar with that proof beyond a reasonable  
18 doubt. And it's not, in fact, a proof beyond a  
19 reasonable doubt standard. It's clear and  
20 convincing.

21 So the highly likely language enough is  
22 sufficient to convey that idea without going a  
23 step further so as to confuse that with a proof  
24 beyond a reasonable doubt instruction.

25 THE COURT: Actually, I agree with you,

1 Ms. Works.

2 MR. HENRIOD: Very good. So that's out.

3 THE COURT: If you start adding more  
4 barriers, a different standard of review for the  
5 jury, and I don't want to confuse it. So, yes.

6 MS. WORKS: Thank you, Your Honor.

7 MR. ROBERTS: Your Honor, would I be  
8 precluded from arguing that case? I mean, if I'm  
9 not citing the law, but if I'm explaining to them  
10 what it means, can I base my argument on that  
11 case, because that case is a correct statement of  
12 Nevada law. And if I want to explain the  
13 Court's -- argue the Court's instruction, I should  
14 be able to argue it consistent with the law.

15 MR. HENRIOD: That's kind of like the  
16 feather analogy; right? The feather analogy shows  
17 up a lot, but it's sure not the law.

18 MR. KEMP: It's a defense attorney  
19 giving his own standard to the jury. You can't  
20 argue what you think the law should be.

21 MR. HENRIOD: Like the feather analogy.

22 MR. KEMP: That's an analogy. That's  
23 not a substitution of a standard --

24 MR. ROBERTS: I'm arguing consistent  
25 with the law, not representing to them what the

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1 law is. I'll do it. And if he objects, then the  
2 Court could rule.

3 THE COURT: I'd like to have no  
4 objections during your closing arguments or your  
5 closing arguments if possible, if possible. So  
6 I'll let you know tomorrow. Okay?

7 MR. ROBERTS: Very good.

8 THE COURT: We're doing closing on  
9 Thursday; right?

10 MR. ROBERTS: Or Friday, Your Honor.

11 THE COURT: Or Friday. I'll let you  
12 know tomorrow. Let me add that to my list.

13 MR. HENRIOD: Mr. Pepperman reminds  
14 me --

15 THE COURT: One moment. I'm adding  
16 another thing to my list.

17 MR. ROBERTS: And we would simply direct  
18 the Court to the citation in our proposed  
19 instruction, which I think adequately has that in  
20 a quote from the case.

21 THE COURT: And remind me which  
22 instruction that is just so I can write it down  
23 here, Mr. Roberts. You should have that ready.

24 MR. ROBERTS: I'm not supposed to be  
25 doing jury instructions. That's why we hire

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1 appellate counsel. Trying to make me work harder  
2 than I'm supposed to.

3 THE COURT: Did you find --

4 MS. WORKS: Your Honor, we have one  
5 other one that was --

6 THE COURT: No, no. I want the number  
7 of that one.

8 MS. WORKS: The last one. I'm sorry.

9 THE COURT: I'm sorry. Before we go on.  
10 Otherwise, it's too much --

11 MR. HENRIOD: It's on page 23 --

12 THE COURT: Page 23 of --

13 MR. HENRIOD: -- of our set of specials.

14 THE COURT: -- defense specials. Okay.  
15 Very good.

16 MR. HENRIOD: It's titled "Clear and  
17 Convincing Evidence."

18 THE COURT: Okay. Okay. Very good.  
19 Thank you.

20 Was there something else, Ms. Works?

21 MS. WORKS: Your Honor, I believe  
22 previously page 12 of the plaintiffs' proposed  
23 special jury instructions there was a dispute, I  
24 think, remaining about our proposed Sea Ray jury  
25 instruction with respect to what the warnings have

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1 to convey.

2 Plaintiff did suggest a compromise. We  
3 initially had two instructions on this. We agreed  
4 to withdraw one of them, but I think the Court  
5 still needs to resolve whether or not it will give  
6 this instruction at all. And I can read into the  
7 record --

8 THE COURT: That's on page?

9 MS. WORKS: It's page 12 of plaintiffs'  
10 proposed special instructions previously. It  
11 starts out "Manufacturers have an obligation to  
12 provide."

13 THE COURT: I show "A manufacturer is  
14 under an obligation" -- it's under plaintiffs'?

15 MS. WORKS: Yes, plaintiffs' proposed  
16 specials, Your Honor.

17 THE COURT: All right. "A manufacturer  
18 cannot delegate its ultimate responsibility for  
19 ensuring that its product is dispensed with all  
20 proper warnings." Is that what that says?

21 MR. PEPPERMAN: Yes, Your Honor.  
22 "Manufacturers have an obligation to provide their  
23 products with warnings that adequately communicate  
24 any dangers that may result from the product's use  
25 or foreseeable misuse."

1 THE COURT: 13 I show was taken out.

2 MR. PEPPERMAN: It should be 11 and 12,  
3 I think.

4 MS. WORKS: We agreed to take out one,  
5 Your Honor, and then there was one remaining. I  
6 apologize. I don't have my copy of my notes.

7 MR. PEPPERMAN: It's 11 and 12 are  
8 similar, I think.

9 THE COURT: 13 was deleted or withdrawn.

10 MR. PEPPERMAN: Yeah. 11 we withdrew.  
11 12 we dispute. We think that Number 12 should be  
12 given. That's pretty much the only special  
13 instruction that we're offering. And they dispute  
14 it and don't want to give that as part of the  
15 instructions.

16 So the decision is do you give it or not  
17 give it? That's pretty much --

18 THE COURT: And the instruction is "A  
19 manufacturer cannot delegate its ultimate  
20 responsibility for ensuring that its product is  
21 dispensed with all proper warnings."

22 MR. PEPPERMAN: It should be 12,  
23 page 12.

24 THE COURT: That is page 12. That's  
25 what I have as page 12.

1 MS. WORKS: I don't have the previous  
2 set in front of me, but the instruction that is at  
3 dispute right now, to our understanding, is  
4 "Manufacturers have an obligation to provide their  
5 products with warnings that adequately communicate  
6 any dangers that may result from the product's use  
7 or foreseeable misuse."

8 THE COURT: I have that at page 13. If  
9 you want, I can change the page number.

10 MR. PEPPERMAN: It's page 13. My  
11 mistake, Your Honor.

12 THE COURT: So is 12 withdrawn or 13  
13 withdrawn?

14 MR. PEPPERMAN: Sorry, Your Honor. My  
15 mistake on what one was in dispute. So it is  
16 page 12 that "A manufacturer cannot delegate its  
17 ultimate responsibility for ensuring that its  
18 product is dispensed with all proper warnings,"  
19 because this is the one where Mr. Couch said that  
20 they delegated the responsibility to warn to the  
21 Nevada DMV. And we think it's inappropriate to  
22 give an instruction that says the manufacturer  
23 cannot delegate that warning.

24 We agreed to withdraw the similar one on  
25 page 11, "A manufacturer cannot delegate its

1 ultimate responsibility for ensuring that a  
2 product is safe, as commercial feasibility and  
3 state of the art will allow."

4 I apologize for the confusion, but it is  
5 page 12.

6 THE COURT: So it is page 12. Okay.

7 MR. HENRIOD: We still don't agree to  
8 that one. I think it is one of those that you  
9 took under advisement.

10 THE COURT: This is in context; correct?

11 MR. PEPPERMAN: I'm sorry?

12 THE COURT: It's in context with Allison  
13 v. Merck, the company case?

14 MR. PEPPERMAN: Yes. That's directly  
15 from it. I mean, it's a different situation where  
16 they contracted --

17 THE COURT: I reviewed the case before,  
18 but I don't have it --

19 MR. PEPPERMAN: It was a contractual  
20 issue where they tried to delegate it, and it's in  
21 the context of a bad drug. And they said, no, you  
22 can't delegate -- ultimately, it's the  
23 manufacturer's responsibility to dispense with  
24 proper warnings.

25 THE COURT: Mr. Henriod, I know you're



1 objecting, but --

2 MR. HENRIOD: I'm trying to remember.

3 Yeah, the issue is that we think it  
4 erects a straw man. We're not saying there should  
5 be delegation and we're not saying that there is  
6 delegation. And the instruction being in there,  
7 especially if they're going to refer to it,  
8 suggests that we are making an argument that we're  
9 not making just so they can belittle it.

10 So I don't think it's relevant to the  
11 case. I don't think it's relevant to any  
12 arguments that have actually been made. And I  
13 think that it would be prejudicial to include it  
14 since it's meant to be put up there and mock a  
15 position we're not taking.

16 THE COURT: So there are not going to be  
17 any arguments by defense that suggest --

18 MR. ROBERTS: That the DMV should have  
19 warned or that -- we're going to argue that no  
20 warning is necessary based on Dr. Krauss's  
21 analysis and the fact that air turbulence is open  
22 and obvious and there is no need to warn because  
23 there's no substantial danger, that type of thing.  
24 No -- "there should be a warning and the DMV  
25 should have given it" will not come out of our

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1 mouths.

2 MS. WORKS: It's in the evidence  
3 already, and so I think the jury could derive from  
4 that its own conclusion that, okay, they are  
5 delegating it and maybe that's okay unless they're  
6 otherwise instructed that that responsibility  
7 cannot, in fact, be delegated.

8 MR. ROBERTS: It's in evidence because  
9 they put it in evidence, not us, Your Honor. They  
10 put it in evidence so they could mock it.

11 MS. WORKS: Well, I mean, their witness  
12 testified to that. So it's part of the record.

13 MR. KEMP: Well, they could have  
14 withdrawn this when we were doing the cuts. You  
15 know, Your Honor, this argument didn't come up  
16 when we were doing the depo cuts for Mr. Couch.  
17 They thought we were setting up a straw man to  
18 mock, they should have done it then.

19 MR. ROBERTS: We didn't realize it until  
20 they gave us his proposed instructions.

21 MR. KEMP: Even though I cited  
22 Mr. Couch's testimony in the opposition for motion  
23 of summary judgment with regards to the warning  
24 issue.

25 THE COURT: I'm going to allow it.

1 MR. ROBERTS: Thank you, Your Honor.

2 MR. CHRISTIANSEN: Thank you, Your  
3 Honor.

4 THE COURT: Because there has been  
5 evidence that it's been delegated.

6 MS. WORKS: Thank you, Your Honor.

7 MR. PEPPERMAN: Now, Your Honor, if you  
8 recall, we went through -- there were several jury  
9 instructions related to things that you had ruled  
10 on previously. We assume none of those rulings  
11 are going to change.

12 THE COURT: Are you talking about  
13 Stackiewicz?

14 MR. PEPPERMAN: Stackiewicz, the contrib  
15 negligence.

16 THE COURT: Correct.

17 MR. HENRIOD: The assumption of risk.  
18 They're ones that we'll need to put in but that  
19 are out necessarily because of the eliminated  
20 rulings.

21 THE COURT: There's no assumption of  
22 risk. Everything is consistent with my former  
23 rulings. I'm not changing --

24 MR. PEPPERMAN: Yes, Your Honor. And I  
25 have two more disputes of defendants' specials.

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1 Page 22 --

2 THE COURT: Of defendants' specials?

3 MR. PEPPERMAN: Yes. Which I think  
4 is -- one of them is the compensatory damages.

5 THE COURT: Just tell me the page  
6 number.

7 MR. PEPPERMAN: 22 is the first one.

8 THE COURT: 22 for purposes of  
9 determining whether to impose punitive damages?  
10 Is that the right one?

11 MR. PEPPERMAN: Yes.

12 THE COURT: All right.

13 MR. PEPPERMAN: This is the one about  
14 the possession of information and constructive  
15 notice that we had a discussion about on Sunday  
16 and there was no resolution or agreement.

17 We -- plaintiffs believe that would be  
18 improper for the Court to give this type of  
19 instruction, and MCI is advocating for it.

20 THE COURT: Is this the one where  
21 plaintiff says, "It sounds like Gunlock again, not  
22 the law, covered by stock 37"?

23 MR. PEPPERMAN: Right.

24 THE COURT: You have my notes.

25 "Defense: It explains it is in conscious

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1 disregard if you aren't aware of the fact."

2 Is that correct? Is that the one we're  
3 talking about?

4 MR. KEMP: Yes, this is a design  
5 stock -- the designer Gunlock.

6 THE COURT: Focus on designer is  
7 impermissibly looking at individuals.

8 MR. HENRIOD: Right.

9 THE COURT: The defense asked, "Should  
10 we change designer to defendant?" Plaintiffs  
11 agree to disagree.

12 MR. HENRIOD: Yeah, and -- I mean, if  
13 that's all that is holding it up, we can make that  
14 change. We also can break these down into three.  
15 I don't think that is the only issue, but our  
16 position on this, Your Honor, is that there are  
17 these three different aspects that are pretty  
18 essential to punitive damages. I think they all  
19 arise because of the evidence that has been  
20 presented in this case, and the theory especially  
21 of constructive notice and the idea that, because  
22 we possessed the wind tunnel test, that we could  
23 be -- that we could be deemed to have consciously  
24 disregarded the ramifications for safety that  
25 might be implied.

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1           So that's why we think this is  
2 necessary. Your Honor took it under advisement.  
3 Do you have any other questions about it?

4           THE COURT: No.

5           Mr. Kemp?

6           MR. KEMP: Judge, I just think this is  
7 really the Gunlock instruction again. They try to  
8 make it more specific now. They try to apply it  
9 to a designer. And then they focus on mere  
10 possession of data, which I assume is the wind  
11 tunnel just because he said that. And they say  
12 constructive notice cannot substantiate a finding.

13           The jury instruction already says  
14 "know," that they have to know on the punitive  
15 damages instruction. So the jury instruction  
16 already requires knowledge. So now they're asking  
17 for another Gunlock instruction that's directed to  
18 specifically the designer.

19           You know, I don't know the designer --  
20 there's been no evidence whether the designer saw  
21 or didn't see this wind tunnel test, but it's  
22 their wind tunnel test. They ordered it. It says  
23 "MCI" all over it. So it's not a constructive  
24 notice situation. They actually had it. You  
25 know, they can argue constructive notice about

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1 the -- Motor Coach knew, they can argue  
2 constructive notice about this document.

3 But this is their actual test. How can  
4 they say they didn't know about it and so mere  
5 possession of data cannot justify and that -- I  
6 mean, it's the wind tunnel test. It does justify  
7 a finding of conscious disregard. So I just don't  
8 think it's an appropriate instruction for all  
9 those reasons.

10 THE COURT: If I remember correctly,  
11 defense generally discusses the wind tunnel  
12 test -- I hope I'm not getting my different tests  
13 mixed up, but concerning fuel efficiency; is that  
14 correct?

15 MR. HENRIOD: Um-hum.

16 THE COURT: But not design issues?

17 MR. ROBERTS: Not safety issues. The  
18 word "safety" is not found anywhere in that  
19 report, Your Honor.

20 MR. KEMP: But the word "side force" is  
21 found in that report.

22 MR. HENRIOD: And this goes to the  
23 second sentence. And what I'll do is I'll break  
24 these down. If Your Honor decides not to give it,  
25 what I'll do is, on those that are proposed, not

1 given, you'll see these broken down into separate  
2 ones because they are different concepts.

3           It's the second one, the mere data,  
4 where we're saying it's not enough to have  
5 information from which you might be able to  
6 extrapolate a safety issue; it's that you have to  
7 be aware that it is a safety issue. And, here,  
8 really, what they're saying is, well, it implies a  
9 safety issue. If you were to talk to Professor  
10 Breidenthal, you'd know that it's also a safety  
11 issue.

12           THE COURT: All right. I'm trying to  
13 decide all of them right now, but I'm just going  
14 to think about this one a little bit more.

15           MR. HENRIOD: Makes sense. And then  
16 there are a couple that we had agreed to from our  
17 set, and I think we can put those in tonight  
18 because I don't think any --

19           MR. PEPPERMAN: We just can modify them,  
20 yeah.

21           MR. HENRIOD: Yeah.

22           MR. PEPPERMAN: And then the last  
23 disputed one is page 25 of defendants', that they  
24 want to offer, we object to. This is the "you can  
25 consider a compensatory award as punitive."

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1 THE COURT: Hold on one second. Okay.

2 MR. KEMP: Yeah, Judge, this is just  
3 mixing apples and oranges. Compensatory damages  
4 are to compensate; punitive damages are to --

5 THE COURT: I'm not going to allow this  
6 instruction. I think the case this came out of  
7 was the -- isn't one of them the Exxon Valdez?

8 MR. HENRIOD: The State Farm?

9 THE COURT: And State Farm.

10 MR. KEMP: Judge, Joel and I talked  
11 about it, and we thought it would be a good idea  
12 to give you a heads-up on the verdict form issues  
13 that still remain.

14 THE COURT: Are we done with these?

15 MR. KEMP: Yeah, I think we're done with  
16 jury instructions. Judge, I don't want to argue  
17 this today; I just wanted to give you the heads-up  
18 so you can kind of start thinking about it.

19 We have agreed to take all their damages  
20 section, which is on pages 3, the compensatory  
21 damages section, and use that. So we've agreed to  
22 take their compensatory and move it onto our form.  
23 So that's not an issue.

24 The issue is going to be we have a  
25 question here, "Is MCI liable for defective

1 design, right-side blind spot?" And they just put  
2 it down as right-side blind spot. And what I told  
3 Joel is this really -- I mean, I can't imagine  
4 anyone is not going to check "yes" on a right-side  
5 blind spot after everybody admits there's a  
6 right-side blind spot.

7           The witness yesterday said there was a  
8 right-side blind spot that was 40 inches wide and  
9 5 feet deep. Okay? That's not really the issue  
10 whether there's a right-side blind spot; the issue  
11 is whether they're liable for a defective design  
12 for a right-side blind spot.

13           THE COURT: I'm sorry. The issue is  
14 what?

15           MR. KEMP: The issue for the jury is  
16 whether MCI is liable for defective design with  
17 regard to a right-side blind spot. So I don't  
18 like just putting the four words "right-side blind  
19 spot, yes or no" because I just don't think that's  
20 the question that we're really asking the jury.

21           MR. HENRIOD: Okay. So, on that, we can  
22 tinker with the language. I have -- above the  
23 "yes" and "no," it says "defect." And I think we  
24 could change that to "Does the condition render  
25 the coach defective?"

1 I think, really, the crux of the dispute  
2 here, aside from just the wording on top of that  
3 yes/no column, I think the crux of our dispute is  
4 whether or not we ought to break out causation and  
5 defect as different elements.

6 I recognize as an attorney that  
7 liability includes both a defective condition and  
8 cause because I've been doing this a number of  
9 years, but I think the reason that the proposed  
10 verdict forms, even in the stock books, break down  
11 each of the elements -- is there a breach of a  
12 duty? Is there causation? -- is because it is  
13 important to have them walk through each of those  
14 elements.

15 And that's why we have broken down  
16 causation and alleged defect for each of these  
17 theories. So what we're asking is we think we  
18 ought to ask right-side blind spot, for instance,  
19 "Does it render the product defective? Yes/no.  
20 If yes, was it a proximate cause?" Because I  
21 think they need to ask that causation question for  
22 each alleged defect.

23 MR. KEMP: And that's the dispute, Your  
24 Honor. And the reason we don't like that is,  
25 first of all, it's not proximate cause; it's

1 substantial factor now.

2 But, second, when you say "liable for a  
3 defective design," you are incorporating all the  
4 jury instructions on the point. You're  
5 incorporating the substantial factor. You're  
6 incorporating the unreasonably dangerous. You're  
7 incorporating any other instruction.

8 Yeah, so -- so it's just better asking  
9 liable for defective design, yes or no.

10 The other problem I've got with this is  
11 this leads to what I call -- I think I told the  
12 story before. Mr. Belli told me once that if it  
13 takes longer to fill out the verdict form than it  
14 does a Chinese restaurant menu, you're in trouble.

15 Okay. The problem with --

16 MR. HENRIOD: Who's in trouble?

17 MR. KEMP: Well, the court system is in  
18 trouble because it can lead to an inconsistent  
19 verdict. All right? Maybe you're not in trouble,  
20 but the problem I have with this is by saying yes  
21 or no on defect and proximate cause, and then they  
22 repeat the yes or no again on punitive, so,  
23 basically, there are five categories:  
24 right-side blind spot, proximity sensor, barrier  
25 protector, aerodynamics, failure to warn.

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1           So if we do yes on those once, that's  
2 five choices. If we do yes or no twice by adding  
3 in the proximate cause, that's five times five.  
4 That's 25 potential combinations.

5           If we turn around and add that to the  
6 punitive verdict like they've done, that's 5 times  
7 125. That is 125 potential combinations to give  
8 to the jury. That is a Powerball verdict form,  
9 Your Honor. And it can potentially lead -- what  
10 if they check yes, yes, on two of them  
11 and then the third one, you know, it's like a  
12 hanging chad. We can't really tell what they  
13 checked. It's just not a good place to go.

14           And that's why I think our verdict form  
15 is a lot simpler. It's basically the same verdict  
16 form we've used before, not that that makes it  
17 perfect, but that's the basic disagreement.

18           And I think the other disagreement --

19           MR. HENRIOD: Before you go on, can I --

20           MR. KEMP: Sure.

21           MR. HENRIOD: And here's our take on  
22 this.

23           THE COURT: Okay.

24           MR. HENRIOD: I think it's a messy case.  
25 This is a messy theory. But what we have to do --

1 and I understand it takes a little bit of work for  
2 the attorneys to look over this before we  
3 discharge the jury. And if we think that there is  
4 some confusion and we need to ask about it, we can  
5 do it. It's why that procedure exists.

6 My concern is -- is a jury that would  
7 say "yes" and "yes" in this column  
8 and then causation in another where they can say  
9 that something does -- or they can say that the  
10 absence of a proximity sensor doesn't make it --  
11 does make the vehicle unreasonably dangerous but  
12 it didn't cause this injury. So they could have  
13 yeses in one column and, with those yeses, nos.

14 So we do need to look at matching  
15 causation with the alleged defects because there  
16 are also different legal arguments that will come  
17 up in judgment as a matter of law on each of  
18 these, proximate -- or legal cause does have to be  
19 matched up.

20 The other column that he's referring to  
21 is we break this down in the punitive damages  
22 section where we say "conduct relating" -- we're  
23 asking the jury to tie the conduct that they find  
24 to be malicious to one of the alleged defects.  
25 What you can't have, in our opinion, is the jury

1 saying it's unreasonably dangerous in a manner  
2 that caused this injury only on the S-1 Gard, that  
3 the S-1 Gard is the only defective condition that  
4 caused the injury and yet have them award punitive  
5 damages because they didn't like the way that we  
6 handled the proximity sensor.

7 And so if they are awarding punitive  
8 damages based on conduct that relates to a  
9 condition that didn't even cause this  
10 injury, then you're into a State Farm-type  
11 problem, where they are coming at us because they  
12 don't like us as a company, but for injuries that  
13 may or may not have been caused to other people.

14 So that's why we think it ought to be  
15 broken down in the punitive damages section as  
16 well.

17 MR. KEMP: To solve the State Farm  
18 problem, I agreed to their State Farm jury  
19 instruction. I agreed to it.

20 MR. HENRIOD: Also is necessary.

21 MR. KEMP: So I agreed to the jury  
22 instruction, and now we have to do the verdict  
23 form to incorporate the jury instruction. Your  
24 Honor, I think he's made my argument for me. Just  
25 saying are they liable for defective design and

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1 saying what the area is, I think incorporates  
2 everything that needs to be incorporated.

3 MR. HENRIOD: Especially if they all go  
4 to law school.

5 MR. KEMP: Well, you know, this can be a  
6 problem, Your Honor. In the Apple computer case  
7 against Samsung that was tried -- was it last  
8 August or the year before? -- I think it was the  
9 year before, August, the jury verdict form in that  
10 case was 78 pages long.

11 THE COURT: Oh, you've got to be kidding  
12 me.

13 MR. KEMP: I had never seen anything  
14 like that.

15 MR. HENRIOD: And this one is only four.

16 MR. KEMP: Well, luckily, they had some  
17 doctorate people on the jury because they tried  
18 the case in Silicon Valley, so they were able to  
19 work through the jury form. I just think the  
20 simpler, the better, Your Honor. You want to have  
21 a nice, simple verdict form so, you know, the  
22 Chinese food comes out on time.

23 MR. PEPPERMAN: Your Honor, if I can  
24 just add one point to this. In their verdict  
25 form, where you check "defect" and "causation,"



1 and are they liable, it's incorporated.

2 On theirs, for example, what if "failure  
3 to warn defect? No."

4 "Failure to warn, proximate cause?  
5 Yes."

6 How could the failure to warn not be a  
7 defect but be the proximate cause of the injury?  
8 That's the type of thing that could happen.  
9 That's the problem with these type of verdict  
10 forms.

11 MR. KEMP: That's why there's just one  
12 box on the sushi menu to check. Okay? Either you  
13 get the cut one or the -- what's it called? -- the  
14 other one. What is it?

15 MR. HENRIOD: Sashimi?

16 MR. KEMP: I don't go enough. Okay.

17 In any event, Your Honor, that is one  
18 disagreement.

19 The other disagreement -- and I think  
20 Joel said he's going to think about it -- is where  
21 we place the punitive damages question.

22 MR. HENRIOD: And how we phrase it.

23 MR. KEMP: And how we phrase it.

24 On placement, I think you have  
25 compensatory liability, yes or no; punitive

1 liability, yes or no; and then compensatory  
2 damages.

3 I think if you do it the way they have  
4 it on their form, by putting the yes or no on  
5 punitive after compensatory, you run a real risk  
6 of the jury -- you know, let's throw 500 million a  
7 year. You know? Because if you don't make it  
8 real clear, you know, you could get an inflated  
9 compensatory award in certain line items.

10 And we don't want that. We'd rather  
11 just do it the right way.

12 MR. HENRIOD: That's the part that  
13 intrigued me enough to say --

14 MR. KEMP: Yeah. And, I mean, I told  
15 him candidly, you should be arguing this and I  
16 should be trying to put it in the back.

17 The other issue is the language -- how  
18 it's worded. I have it pretty simple. I just  
19 say -- where is it? Okay. Oh, yeah. "Is MCI  
20 liable for punitive damages?"

21 What I always see is that, you know,  
22 there's multiple -- in the jury instruction on  
23 punitives, we have malice, we have conscious  
24 disregard. I think we took out the fraud  
25 impression. We took out what else?

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1 MR. HENRIOD: Just that.

2 MR. KEMP: So, anyway, we have two of  
3 them.

4 So what the defendants always like doing  
5 is they like to put malice in there, because  
6 malice, oh, gee, they didn't prove malice, ladies  
7 and gentlemen. And we like to put conscious  
8 disregard because it sounds like a lesser  
9 standard. So, you know, if I was trying to pull a  
10 fast one on them, I would have said, "Did MCI  
11 commit conscious disregard? Yes or no." I  
12 didn't. I just said "liable for punitive damages"  
13 because it incorporates both concepts.

14 So what I don't like about theirs is  
15 theirs says, "Do you find that they acted with  
16 malice?" So they have what I would consider to be  
17 the higher standard for a typical layperson than  
18 conscious disregard. So it's the same kind of  
19 concept on the compensatory.

20 MR. HENRIOD: I think malice is  
21 appropriate because it is out of the statute. It  
22 matches up with the jury instruction as to what  
23 they're looking for. And even if it sounds like a  
24 daunting legal term of art, I don't see what would  
25 make that any different from loss of

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1 companionship, society, comfort, grief, and  
2 sorrow. It's the element of -- it's the element  
3 that must be found under the law. So that's our  
4 position on the language.

5 MR. KEMP: I accepted their language on  
6 loss of companionship, society, and comfort.

7 MR. HENRIOD: So what's the difference?

8 MR. KEMP: The difference is you were  
9 right here and you're wrong here.

10 MR. HENRIOD: So that's the dispute,  
11 Your Honor, to give you a heads-up.

12 MR. KEMP: Your Honor, so what I'm going  
13 to do is I'm going to take what we've agreed to in  
14 their form and put it in our form. And then we  
15 can --

16 MR. HENRIOD: Yeah, and what I'll do is  
17 I will change the top of this column to make it  
18 more -- I'll put in legal cause instead of  
19 proximate. I will change the question at the top  
20 of that column. And then I also -- I think our  
21 caption still has all those defendants in it.

22 THE COURT: Yes.

23 MR. HENRIOD: So you'll see our proposed  
24 has the full caption.

25 MR. KEMP: Yeah, I just think that's not

1 appropriate, Your Honor. The screen has been --

2 MR. HENRIOD: So that's what you'll be  
3 seeing.

4 MR. ROBERTS: It's our position that,  
5 had they severed the defendants, the case would  
6 have been removable. They chose not to sever the  
7 defendants, so the caption is the caption.

8 THE COURT: I can make a note of that.

9 MR. KEMP: Your Honor, there's no  
10 requirement to use a caption on jury forms in the  
11 first place. Technically, there's no requirement.

12 MR. HENRIOD: Is that true?

13 MR. KEMP: Yeah, that's true.

14 MR. HENRIOD: Where is that from?

15 MR. KEMP: Show me the rule that says  
16 you've got to use a caption on a jury verdict  
17 form. Never thought of that before, huh?

18 MR. HENRIOD: I've never faced that  
19 argument before.

20 THE COURT: So I have a question for  
21 you. There is -- so I have received both briefs  
22 on taxation. And that will go to one of the  
23 clips. And there's a Supreme Court of the United  
24 States case, Norfolk & Western Railway Company v.  
25 Liepelt, and that's 100 S. Ct. 755, 1980. Or

1 easier, Norfolk & W Ry. Co. v. Liepelt, 444 U.S.,  
2 490 (1980).

3 I just wanted you to take a look at  
4 that. And I just wanted to ask you really a basic  
5 question, which I think I know, but it's really  
6 the bottom line for me. With respect to the issue  
7 of awarding of -- I had this written up before --  
8 awarding the support, right, support, is a -- I  
9 know in a personal injury case. I know you don't  
10 take taxes out of that. Is that the same thing?

11 MR. KEMP: That's not really true, Your  
12 Honor. There is a line of case law that says, if  
13 it's wage loss, if the plaintiff is getting  
14 compensated for wage loss, the plaintiff can be  
15 taxed on that.

16 What happened is sometime in the early  
17 '80s the Ninth Circuit started taxing people.  
18 There's a Ninth Circuit case right on point. So  
19 in theory, any component of a personal injury  
20 award that is wage loss -- let's say I had someone  
21 who was in a coma, could never work again, he was  
22 making a million dollars a year, and the wage loss  
23 was 20 million and the pain and suffering award  
24 was 40 million. The IRS could come in and say we  
25 want ours out of the 20 million. We advise all

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1 our clients that.

2 Candidly, the IRS doesn't do that.  
3 They've been letting it slide, but legally, that  
4 is taxable income.

5 MS. WORKS: Your Honor, I think what may  
6 be instructive on this issue, I have the U.S.  
7 Supreme Court case in front of me. Of course,  
8 that is an application of law. It's the Federal  
9 Employment Labor Act.

10 The Court could also take guidance as to  
11 why that doesn't apply and why the state should  
12 apply.

13 THE COURT: It is a Federal Employers  
14 Liability Act. You're right.

15 MS. WORKS: If the Court looks at the  
16 Ninth Circuit case that we cited, I believe, in a  
17 footnote in our brief. It's Shaw v. United  
18 States, 741 F.2d 1202. And that is illustrative  
19 to the Court as to why -- that's a Federal Tort  
20 Claims Act case. And in Shaw, what the court does  
21 is say, well, you know, because -- and the only  
22 reason why they say that the taxation has to come  
23 into play is because it's a case against the  
24 federal government.

25 And so they found it to be punitive in

1 nature to have the federal government not get the  
2 income taxes because the individual wasn't alive  
3 to earn the money to get the taxes, but then also  
4 to not receive the taxes in the end. So they  
5 found it to be a punitive to the government.

6 But at the end, what it says is in order  
7 to not punish the plaintiff, you have to also --  
8 the court, on its own volition, has to go in and  
9 increase the award to account for the deduction of  
10 the taxes.

11 And so you're left in this quandary with  
12 here, where we're applying state law, not federal  
13 law. There is no Federal Tort Claims Act at issue  
14 here.

15 And what Nevada law says, if you look at  
16 the Otis -- which the Otis Elevator case says you  
17 don't interject, if you can avoid it, these issues  
18 of taxation because it only confuses the issues  
19 for the jury.

20 And if we're going to weigh trying to  
21 get an exact verdict amount consistent with  
22 taxation issues versus the prejudice and confusion  
23 of the issues, then the prejudice is too  
24 substantial and it outweighs any interest in  
25 trying to get this exact number with respect to



1 the taxation issues.

2 So both the United States Supreme Court  
3 that they've cited and a number of other cases  
4 simply don't apply state law. They're looking at  
5 federal issues or they're applying state law that  
6 is distinct from Nevada.

7 Where the state law is silent, the  
8 majority is that the issues of taxation do not  
9 come in. If you want to look at the Shaw case,  
10 that's the Ninth Circuit case on point which I  
11 think breaks down a little better than the United  
12 States Supreme Court case.

13 THE COURT: I will do that.

14 MR. KEMP: It's speculative. The  
15 problem is they want to tell the jury that  
16 Dr. Khiabani would add an automatic 35 percent  
17 because he's making a million dollars.

18 Who knows if he would have had 35  
19 percent? He could have been a smart doctor, if  
20 there is such a thing, and got some depreciation  
21 and, instead of paying 35, he's paying 17. Who  
22 knows what would have happened 20 years in the  
23 future?

24 That's why, under Otis and particularly  
25 the other case cited, it's never done. Never

009290

1 done.

2 MR. ROBERTS: Your Honor, it's not never  
3 done. We've given the Court case law that shows  
4 it's the majority rule under a loss of support  
5 statute. And I'd like to be able to say here's  
6 how you can reconcile all of the cases out there,  
7 but they can't all be reconciled.

8 THE COURT: That's happening quite often  
9 in this case, isn't it? No seriously. I'm not  
10 complaining. I'm just --

11 MR. ROBERTS: But if you have a loss of  
12 support case --

13 THE COURT: It's an observation.

14 MR. ROBERTS: -- that specifically  
15 addresses the issue, the clear majority rule is  
16 the taxation comes in. And the reason it comes in  
17 is a loss of support has to come in after personal  
18 consumption.

19 Personal consumption doesn't come in in  
20 a wage loss case. So that wouldn't come in.  
21 Income taxes wouldn't come in in a wage loss case.  
22 But if it's loss of support, that's why it comes  
23 in.

24 And the fact is, if the jury isn't  
25 instructed on taxes and awarded 15 million, they

009291

1 will have awarded 5 million more than it would  
2 have been possible for Dr. Khiabani to pay them if  
3 he had paid his taxes.

4 Mr. Kemp argues it's speculated that he  
5 would have stayed in the 35 percent bracket.  
6 Well, we have undisputed evidence that his last  
7 full year, he paid 35 percent. It is no more than  
8 speculative that he'll continue to be taxed at  
9 35 percent than it would be that he'll continue to  
10 make a million a year for 20 years. That's just  
11 as speculative, but that comes in. It would be  
12 highly speculative to suggest that somehow he's  
13 going to -- the tax deductions and tax shelters  
14 that he didn't use the last full year of his life.

15 So we think, under the case law, it  
16 would be highly prejudicial to not allow the jury  
17 to consider taxes when considering, not his lost  
18 income, but how much he would have had available  
19 to give to his children.

20 MR. KEMP: Your Honor, when I said it  
21 was always the case that it doesn't come in, I  
22 meant under Nevada law. I agree there's some case  
23 in Alaska somewhere. But if you take a look at  
24 the Otis case, that's the Nevada Supreme Court.

25 MR. ROBERTS: All that says is you don't

009292

1 interject tax unless you have to. In this case  
2 you have to.

3 MS. WORKS: Your Honor, you actually  
4 don't, because even the defense expert said that  
5 he didn't consider gross versus net numbers. He  
6 didn't factor that in. So there's actually no  
7 evidence that's been in front of this jury as to  
8 taxation. And even his own expert doesn't testify  
9 to those issues or incorporate them in his  
10 analysis.

11 MR. ROBERTS: Correct. He didn't come  
12 up with a number. He didn't come up with a  
13 number. He said it's nothing after age 22.

14 MS. WORKS: And he said he always used  
15 his gross numbers.

16 MR. CHRISTIANSEN: Because he said it's  
17 nothing after age 22 is why you need to let me  
18 play the clip outside the presence of the jury  
19 where he gave 2-plus million dollars to my  
20 clients --

21 THE COURT: 2734 and 37 --

22 MR. CHRISTIANSEN: Well, Mr. Roberts was  
23 the defense lawyer, and it shows Dr. Smith after  
24 he had my report in that case.

25 MS. WORKS: Your Honor, we did

009293

1 actually -- I know it came in while Your Honor was  
2 on the bench today -- and I've given a heads-up to  
3 the defense as well -- we did file a brief on that  
4 issue tonight -- or earlier today. If the Court  
5 can look at that, it's a short brief --

6 THE COURT: Do you have another copy of  
7 it? Because sometimes it doesn't make it --

8 MR. CHRISTIANSEN: We can forward it to  
9 Mr. Jayne, Your Honor.

10 MS. WORKS: We did email it to  
11 Mr. Jayne. I don't have a copy with me because,  
12 unfortunately, it was filed from our office while  
13 we were at court.

14 THE COURT: Sometimes what happens is  
15 it's filed, but I don't get it right away. If you  
16 send it to Mr. Jayne, that's a better avenue.

17 MS. WORKS: We did.

18 MR. CHRISTIANSEN: Thank you, Your  
19 Honor.

20 MR. HENRIOD: Does it work to lay the  
21 formal record up? So put together the final set,  
22 and then we make our formal objections. We  
23 propose, the proposed not given. Should we do  
24 that at the lunch hour tomorrow? Is that too  
25 ambitious?

1 THE COURT: No. Is there any way that I  
2 can take a look at the proposed or as close as  
3 possible the proposed verdict forms? Do you have  
4 anything yet?

5 MR. KEMP: Do you still have the two  
6 that we started with?

7 THE COURT: Yes.

8 MR. KEMP: I'll tell you what we agreed  
9 to so far. We have agreed to use --

10 THE COURT: Hold on. Let me go to that.

11 MR. HENRIOD: I sent one. The one you'd  
12 be looking at from us, we sent over today by  
13 email. I'll get you another copy.

14 THE COURT: All right. And then --

15 MR. KEMP: Judge, I found the extra copy  
16 of the one on 22.

17 THE COURT: Okay. Great. Thank you.

18 All right. Plaintiffs' proposed verdict  
19 form, I have Mr. --

20 MR. KEMP: Judge, what we've agreed to  
21 do so far is on page 2, where they have it all  
22 broken down --

23 THE COURT: Yes. Wait.

24 MR. KEMP: -- we've agreed to just take  
25 their compensatory damages from their form.

1 THE COURT: Hold on. Let me show you  
2 what I have. I have plaintiffs' proposed verdict  
3 form, and I have the defense.

4 MR. HENRIOD: So that is the general.  
5 We would propose both the special and the general.  
6 The general one hasn't changed.

7 THE COURT: The general, this is the  
8 same?

9 MR. HENRIOD: That one is the same.

10 THE COURT: Okay. And this one is the  
11 plaintiffs'.

12 MR. KEMP: So what we're agreeable to is  
13 to take their compensatory damages -- this is  
14 theirs -- and use that instead of ours.

15 THE COURT: Okay.

16 MR. KEMP: Okay. Because they have --  
17 and the big difference is we had pain and  
18 suffering, disfigurement under Keon and we said to  
19 be divided and we didn't repeat it, and in theirs  
20 they put it all in one spot. Right here. They  
21 put damages to be divided among the heirs. I just  
22 think their way is cleaner. This is ours.

23 MR. HENRIOD: Then I'll put this: "Did  
24 the condition render the coach defective?" So  
25 this is the condition. That's the question.

1 MR. KEMP: I still think you've got a  
2 problem.

3 MR. HENRIOD: I wasn't asking for your  
4 agreement.

5 THE COURT: But these are the same?

6 MR. HENRIOD: That one is the same.

7 THE COURT: All right. Thank you.

8 All right. So I have homework for this  
9 evening, and I'll see you tomorrow at 9:00 a.m.

10 MS. WORKS: Thank you, Your Honor.

11 THE COURT: Have a great evening,  
12 everyone. Thank you very much for your help.  
13 Thank you, everyone, for staying late on our team.

14 (Thereupon, the proceedings  
15 concluded at 6:26 p.m.)

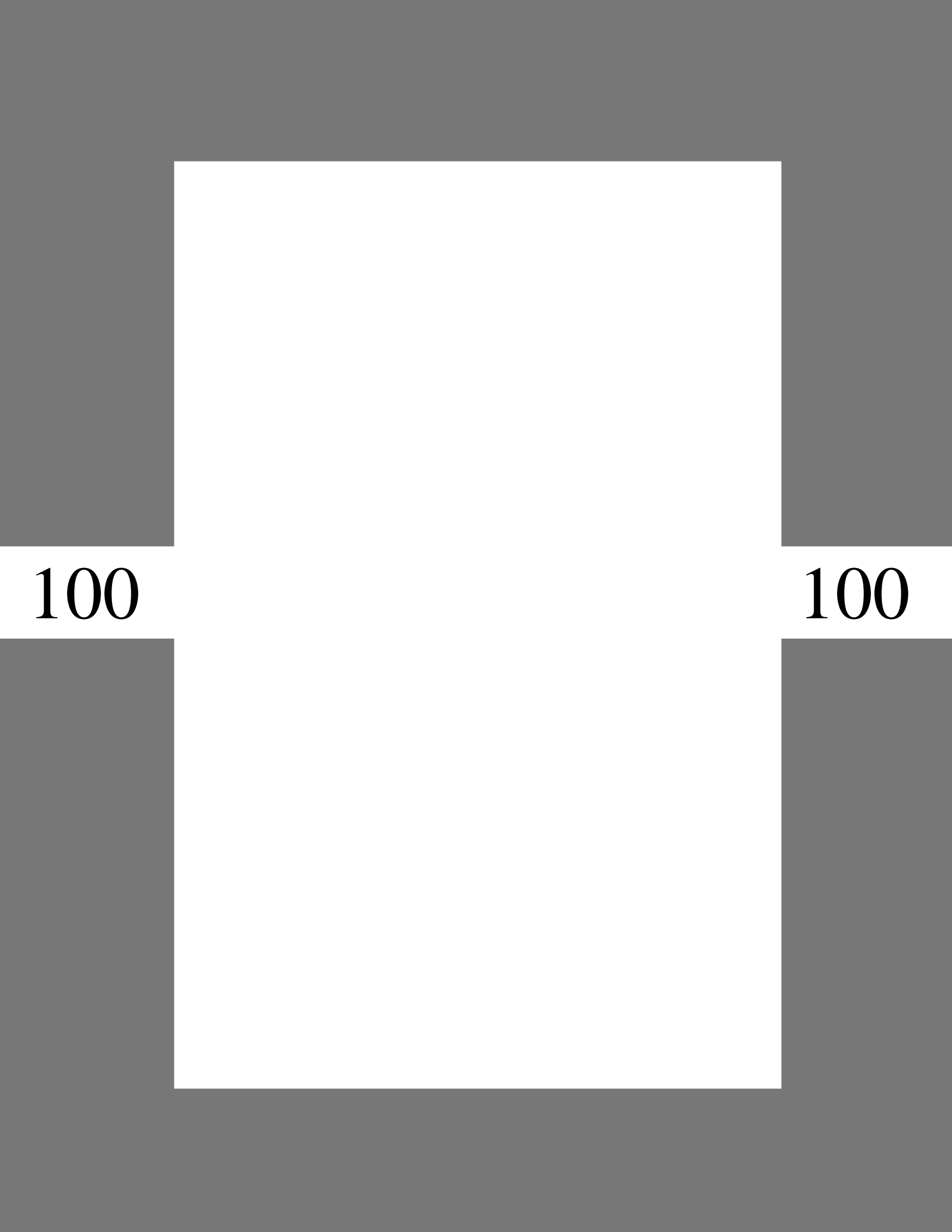
16  
17 -o0o-

18 ATTEST: FULL, TRUE, AND ACCURATE TRANSCRIPT OF  
19 PROCEEDINGS.

20  
21   
22 /S/ Kimberly A. Farkas, RPR

009297





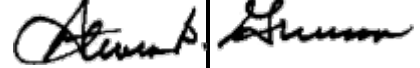
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Steven D. Grierson

CLERK OF THE COURT



1 CASE NO. A-17-755977-C

2 DEPT. NO. 14

3 DOCKET U

4 DISTRICT COURT

5 CLARK COUNTY, NEVADA

6 \* \* \* \* \*

7 KEON KHIABANI and ARIA )  
8 KHIABANI, minors by and )  
9 through their natural mother, )  
10 KATAYOUN BARIN; KATAYOUN )  
11 BARIN, individually; KATAYOUN )  
12 BARIN as Executrix of the )  
13 Estate of Kayvan Khiabani, )  
14 M.D. (Decedent) and the Estate )  
15 of Kayvan Khiabani, M.D. )  
16 (Decedent), )

17 Plaintiffs, )

18 vs. )

19 MOTOR COACH INDUSTRIES, INC., )  
20 a Delaware corporation; )  
21 MICHELANGELO LEASING, INC. )  
22 d/b/a RYAN'S EXPRESS, an )  
23 Arizona corporation; EDWARD )  
24 HUBBARD, a Nevada resident, )  
25 et al., )

Defendants. )  
\_\_\_\_\_ )

21 REPORTER'S TRANSCRIPTION OF PROCEEDINGS

22 BEFORE THE HONORABLE ADRIANA ESCOBAR  
23 DEPARTMENT XIV

24 DATED WEDNESDAY, MARCH 21, 2018

25 RECORDED BY: SANDY ANDERSON, COURT RECORDER

TRANSCRIBED BY: KIMBERLY A. FARKAS, NV CCR No. 741

1 APPEARANCES:

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3 Kayvan Khiabani, M.D.:

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009299

## I N D E X

Witness: Direct: Cross: Redirect: Recross:

VIRGIL HOOGESTRAAT 7 38 58 61

MICHAEL CARHART, PH.D. 93 248 305 313

323 324

## E X H I B I T S

Number Admitted

Exs. 594-613 92

Exs. 618-631 92

Ex. 266 247

Ex. 474A 247

009300

1 LAS VEGAS, NEVADA, WEDNESDAY, MARCH 21, 2018;

2 9:05 A.M.

3 P R O C E E D I N G S

4 \* \* \* \* \*

5 (The following proceedings were held  
6 outside the presence of the jury.)

7 THE COURT: Good morning, everyone.

8 MR. CHRISTIANSEN: Good morning, Your  
9 Honor.

10 MR. ROBERTS: Good morning, Your Honor.

11 THE COURT: We still have a juror  
12 missing. We're off the record.

13 (Brief recess.)

14 (The following proceedings were held  
15 in the presence of the jury.)

16 THE MARSHAL: All rise. All the jurors  
17 are present, Your Honor.

18 THE COURT: Thank you.

19 THE MARSHAL: Please be seated. Come to  
20 order.

21 THE COURT: Good morning, ladies and  
22 gentlemen.

23 IN UNISON: Good morning.

24 THE COURT: The roll?

25 THE CLERK: Yes, Your Honor.

009301

1           Byron Lennon.  
2           JUROR NO. 1: Here.  
3           THE CLERK: John Toston.  
4           JUROR NO. 2: Here.  
5           THE CLERK: Michelle Peligro.  
6           JUROR NO. 3: Here.  
7           THE CLERK: Raphael Javier.  
8           JUROR NO. 4: Here.  
9           THE CLERK: Dylan Domingo.  
10          JUROR NO. 5: Here.  
11          THE CLERK: Aberash Getaneh.  
12          JUROR NO. 6: Here.  
13          THE CLERK: Jaymi Johnson.  
14          JUROR NO. 7: Here.  
15          THE CLERK: Constance Brown.  
16          JUROR NO. 8: Here.  
17          THE CLERK: Enrique Tuquero.  
18          JUROR NO. 9: Here.  
19          THE CLERK: Raquel Romero.  
20          JUROR NO. 10: Here.  
21          THE CLERK: Pamela Phillips-Chong.  
22          JUROR NO. 11: Here.  
23          THE CLERK: Gregg Stephens.  
24          JUROR NO. 12: Here.  
25          THE CLERK: Glenn Krieger.

009302

1 JUROR NO. 13: Here.

2 THE CLERK: Emilie Mosqueda.

3 JUROR NO. 14: Here.

4 THE COURT: Do the parties stipulate to  
5 the presence of the jury?

6 MR. BARGER: Yes, Your Honor.

7 MR. KEMP: Yes, Your Honor.

8 Can we approach one second, please.

9 (A discussion was held at the bench,  
10 not reported.)

11 THE COURT: All right.

12 Mr. Barger, please proceed.

13 MR. BARGER: Good morning. Your Honor,  
14 we would call Virgil Hoogestraat. And he needs to  
15 be sworn, Your Honor.

16 THE COURT: Yes.

17 THE MARSHAL: Watch your step, sir.  
18 Remain standing and raise your right hand towards  
19 the clerk.

20 THE CLERK: You do solemnly swear the  
21 testimony you're about to give in this action  
22 shall be the truth, the whole truth, and nothing  
23 but the truth, so help you God?

24 THE WITNESS: I do.

25 THE CLERK: Please be seated. State and

009303

1 spell your name for the record.

2 THE WITNESS: Virgil Hoogestraat,  
3 V-i-r-g-i-l. Last name spelled Hoogestraat,  
4 H-o-o-g-e-s-t-r-a-a-t.

5

6 DIRECT EXAMINATION OF VIRGIL HOOGESTRAAT

7 BY MR. BARGER:

8 Q. Sir, could you tell the ladies and  
9 gentlemen of the jury your name.

10 A. Excuse me?

11 Q. Could you tell the ladies and gentlemen  
12 of the jury your name.

13 A. Virgil Hoogestraat.

14 Q. Okay. And where are you employed?

15 A. Motor Coach Industries.

16 Q. I want to visit with you about what your  
17 current title is.

18 A. Okay.

19 Q. What is it?

20 A. I'm a design engineer and vice  
21 president.

22 Q. Okay. And I want you to tell the jury  
23 briefly, if you can, your educational background.

24 A. I have a bachelor of science degree in  
25 mechanical engineering.

009304



1 Q. From where?

2 A. South Dakota State University.

3 Q. And what year did you get that?

4 A. 1972.

5 Q. I want to visit with you about after you  
6 left college and got your bachelor of engineering,  
7 mechanical engineering, where did you go to work?

8 A. Initial job I had was at Chamberlain  
9 Manufacturing. It was a military ordnance group.

10 And then went from there to a company  
11 called Trane, T-r-a-n-e. And they designed  
12 air-conditioning systems.

13 From there, I went to a company called  
14 Kelvinator and made ultra-low, ultracold  
15 refrigeration units, minus 180, minus 200.

16 Then I went to Volvo of America.

17 Q. What was Volvo of America?

18 A. It was a transit bus manufacturer in  
19 Virginia.

20 And when they decided to leave the  
21 country, I went to a company called TMC, which was  
22 part of the MCI group.

23 Q. And what did you do at TMC at the time?

24 A. When I started, I was a supervisor of  
25 project engineering. And, mostly, we were doing

009305

1 suspension, drive train, air-conditioning systems,  
2 those kind of systems.

3 Q. Okay. When you joined MCI, what year  
4 was that?

5 A. 1985.

6 Q. And how long have you been employed by  
7 MCI as a design engineer?

8 A. 33 years.

9 Q. The jury has heard testimony about the  
10 difference between transit buses and motor coach.

11 A. Yes.

12 Q. Would you briefly -- I mean very  
13 briefly, because they've heard it -- from your  
14 standpoint, what are the major differences?

15 A. Primarily, a transit bus is for  
16 low-speed operation. It's used predominantly in  
17 cities. Its intention is -- it usually has two  
18 doors, not always, but usually two doors. It's  
19 for people riding a bus typically 20 to 30  
20 minutes; some applications, longer, but sometimes  
21 shorter.

22 Q. Now -- and we'll go into the design  
23 areas in a minute, but what involvement did you  
24 have with the design of the E coach?

25 A. The only involvement I had in the design

009306

1 of the E coach was that it was a -- I came in at  
2 the very end and assisted in some of the  
3 engineering issues going into production.

4 Q. Okay. And let's go back for a minute.  
5 The jury has heard J coach. This coach is a J4500  
6 involved in this event?

7 A. Yes.

8 Q. Was the E coach a predecessor of some  
9 sort to the J coach?

10 A. No. The E coach was a ground-up design.  
11 It was -- all our previous designs -- the As, the  
12 Bs, the Cs, the Ds -- were all evolutions of  
13 previous models. E coach was totally new.

14 Q. Okay. So the E coach was a totally new  
15 design; is that correct?

16 A. Yes.

17 Q. Now -- and your involvement with the  
18 design of the J4500 was what?

19 A. I was brought in after the styling was  
20 done to -- assembling people to work on it. We  
21 had a large contract going on with a transit  
22 authority, and I was brought in to assist in  
23 organizing people to do the detailed design of the  
24 J coach.

25 Q. Okay. What I want to visit with you

009307

1 about is how does MCI go about designing a bus?  
2 Is it groups of people or what? Just tell the  
3 ladies and gentlemen how you go about doing that.

4 A. Usually there's about 100 people in  
5 engineering, or so, could be more than that. We  
6 use contract people to do some of the drawings if  
7 we're short of staff.

8 And then there's purchasing people  
9 involved, which is outside of that, as well as  
10 manufacture engineering people involved, tooling  
11 people involved, and service people involved to  
12 review the design from service to built.

13 Q. So it's not just one person doing the  
14 design?

15 A. No.

16 Q. Does MCI use outside contractors to help  
17 with design of its coaches?

18 A. Yes.

19 Q. Would you give us an example. On the  
20 J4500, did that include the use of outside  
21 contractors as well as inside engineers?

22 A. Yes. The styling was done outside by a  
23 firm called Designworks out of California. It's a  
24 BMW company. They did -- they worked with MCI in  
25 Winnipeg in doing the styling for the vehicle.

009308

1 Q. Okay. Now, as -- your current title is  
2 vice president of engineering?

3 A. No, my current title is design  
4 engineering vice president.

5 Q. Okay. At one point in time, did you  
6 have a title of vice president of engineering?

7 A. Yes, in 2002 until 2010 approximately.

8 Q. What would your responsibilities have  
9 been as a vice president of engineering?

10 A. I was over the engineering department,  
11 all of engineering.

12 Q. All right. Would that include the J4500  
13 after it was originally put into the marketplace?

14 A. Yes.

15 Q. All right. Are you familiar with the  
16 characteristics of the J4500 and its design?

17 A. Yeah. Yes.

18 Q. I want to visit with you for a moment  
19 about the customers of MCI, how it works. What  
20 types of customers do you have for motor coaches?

21 A. Well, we have -- we group them into  
22 three different types of customers. We have tour  
23 and charter, we have line haul, and we have public  
24 sector. Public sector is buses purchased with  
25 taxpayer dollars, basically. Line haul is more

009309

1 like a Greyhound, where they go point to point.

2 They ride from this point to that point.

3 And then you have tour and charter.

4 Tour and charter is more of -- a tour market is  
5 for people going, obviously, on a tour. Charter  
6 is people who contract for a bus for a certain  
7 function or to go to a certain location. Tour and  
8 charter kind of overlaps. That's why we group  
9 them together, because the line between the two  
10 sometimes is pretty fuzzy.

11 Q. Do these different types of customers  
12 have different criteria that they expect from you?

13 A. Yes. Yes. The public sector is  
14 predominantly a bid contract. They send out this  
15 huge bid. It could be that thick with parameters.  
16 And they specify exactly what they want on a  
17 vehicle. And then you bid to that contract.

18 Greyhound has -- it's a smaller bid, but  
19 it's more for use in that market. So they're more  
20 centered around that type of market and  
21 utilization of the vehicle.

22 Tour and charter is usually high  
23 amenities market. They're trying to sell their  
24 vehicle and their use of their vehicle to the  
25 customer -- the ultimate customer who rides it.

009310

1 So that market is always much higher end.

2 They vary in mileage as far as how much  
3 miles. Certainly, the line haul customer is a  
4 very high mileage. They can be millions of miles  
5 on the vehicle. Tour and charter is less, but  
6 it's another variation.

7 Q. Customers like Greyhound, when they're  
8 visiting with you about how they want their  
9 coaches built, do you visit with them and listen  
10 to their criteria?

11 A. Yes.

12 Q. Okay. Now, MCI puts out the motor  
13 coach, but with respect to parts of the motor  
14 coach, do you use outside vendors?

15 A. Yes, we do.

16 Q. Okay. And the types of things you would  
17 use outside vendors for?

18 A. Well, we use outside vendors for, like,  
19 engines and transmissions, axles, steering --  
20 steering. Parts of the steering, we design the  
21 steering system, but most all the parts are  
22 purchased. The air-conditioning, the seats, the  
23 fabric, some of the exterior/interior trim is  
24 purchased; some we make in-house. Basically, a  
25 lot of the parts are purchased.

009311

1 Q. So, for instance, MCI doesn't build  
2 engines; you get those from outside people?

3 A. Yeah.

4 Q. That's just an example.

5 A. Yes.

6 Q. All right. And, at some point, your  
7 facility puts them together and then they're sold  
8 to customers?

9 A. Yes.

10 Q. All right. Now, I want to ask you about  
11 the word NHTSA, National Highway Traffic Safety  
12 Administration. What is NHTSA?

13 A. NHTSA is the regulatory body over  
14 vehicles on the public highways. They're the  
15 federal government public agency over those  
16 vehicles.

17 Q. Okay. And so does NHTSA have certain  
18 rules and regulations that a bus manufacturer has  
19 to comply with in order to be able to put a bus on  
20 the United States roads?

21 A. Yes.

22 Q. All right. And do they have regulations  
23 and standards that we'll talk about in a minute  
24 with respect to how a motor coach is placed on the  
25 road and some requirements?

009312



1 A. Yes.

2 Q. All right. Now, the FMCSA, Federal  
3 Motor Carrier Safety Act, what part of the federal  
4 government is that and what do they do?

5 A. That's a different agency. It oversees  
6 the operators, the people who operate the buses.  
7 We do not -- they do not oversee the  
8 manufacturers; they oversee the operators.

9 Q. Okay. And an operator would be someone  
10 who owns the buses and drives them and provides  
11 bus drivers?

12 A. Yes.

13 Q. All right. For instance, in this case,  
14 Mr. Hubbard, I believe, was the driver of the bus.  
15 He's not an MCI employee; he's an employee of  
16 somebody else. Is that correct?

17 A. That's correct.

18 Q. All right. With respect to the Federal  
19 Motor Carrier Safety Administration, they control  
20 the bus operators; right?

21 A. Yes.

22 Q. And they have certain rules and  
23 regulations that you have to pay attention to to  
24 incorporate in your design; is that correct?

25 A. Yeah. You have to design the bus so

009313

1 they -- a lot of the motor carrier requirements  
2 are that they are maintained to a certain level,  
3 not all of them, but some of them. And you have  
4 to design the bus so they can be maintained to  
5 that level.

6 Q. All right. So what is MCI's approach to  
7 the design of its motor coaches generally  
8 speaking?

9 A. Well, basically, you have to take in all  
10 the regulatory requirements, including Federal  
11 Motor Carrier. You have to be able to design it  
12 for passenger comfort because the passengers sit  
13 in these motor coaches for an extended period of  
14 times, unlike transit, where there may be --  
15 average time is 30 minutes. They will sit in  
16 these buses for hours, depending on what it's  
17 being used for. So ride comfort is an issue.

18 Durability is an issue because of the  
19 distance that they travel and the longevity of the  
20 vehicle's reliability is a concern. You have to  
21 make sure it's reliable, because if it's used for,  
22 like, a tour company, you certainly don't want it  
23 to be sitting by the side of the road.

24 So there's numerous factors. There's  
25 weight. We have to meet weight standards.

009314

1 There's -- and it has to provide amenities to the  
2 passengers so the passenger feels comfortable in  
3 it.

4 Q. And, obviously, of course, safety is a  
5 consideration as well?

6 A. Safety is always a consideration.

7 Q. Okay. Now, I want to talk to you  
8 about -- now, there are some federal government  
9 standards called FMVSS; correct?

10 A. Yes, Federal Motor Vehicle Safety  
11 Standards issued by the --

12 Q. And those are put out by who?

13 A. NHTSA.

14 Q. Okay. And they don't have a standard  
15 for everything, but they have a lot of standards  
16 you do have to comply with that they've studied;  
17 correct?

18 A. Yes.

19 Q. All right. And in order for this motor  
20 coach to be placed on the highway, you have to  
21 satisfy the FMVSS standards set forth by the  
22 federal government?

23 A. That's correct.

24 Q. And you're familiar with those standards  
25 because, as the chief engineer, you have to work

009315

1 with them; correct?

2 A. Yes.

3 Q. And you've been familiar with them for  
4 how long?

5 A. I was familiar with them when I was  
6 working for Volvo, so it's probably 36 years.

7 Q. Okay. And those standards, do they  
8 periodically change?

9 A. Oh, yeah.

10 Q. Okay. You mentioned something about the  
11 E coach and the J4500, that the E coach was an  
12 evolutionary design. What do you mean by that?

13 A. It was new from the ground up. Prior to  
14 that, our buses were evolutionary, like the As,  
15 the Bs, the Cs, we would change something. But  
16 the customer, he would maybe see 10 percent of the  
17 vehicle change, something like that, from one  
18 model to the next.

19 The E coach was all -- everything was  
20 new. The only thing that maybe was carried over  
21 was the engine and transmission. Other than that,  
22 it was brand new.

23 Q. Okay. And what year did the E coach  
24 come out, approximately?

25 A. 1997.

009316

1 Q. Now, how does the J coach, the J4500,  
2 relate to that evolutionary design from the  
3 E coach?

4 A. The J coach, it's primarily a simplified  
5 E coach. The way we launched it, one of the  
6 issues we had, some customers didn't like all the  
7 complexity of the vehicle. The E coach had  
8 hydraulics, steerable tag axle. It had disc  
9 brakes. It had electronic stability control. It  
10 had a blacklit instrument panel and a multiplexing  
11 electrical system. And some customers just didn't  
12 like that. Some did, but some didn't.

13 Q. So in order to satisfy the customers,  
14 what did you do with the J4500?

15 A. Well, basically, when -- the J4500, we  
16 restyled it from the E coach. And we got rid of  
17 and went to fixed tag axles, went to drum brakes,  
18 went to -- back to mechanical leveling, took out  
19 the multiplexing, put in an individual gauge  
20 instrument panel. I mean, that was predominantly  
21 the changes that were made.

22 Q. When the MCI motor coaches are put on  
23 the road, they are for commercial vehicles;  
24 correct?

25 A. Yes.

009317

1 Q. And does a commercial vehicle driver has  
2 to have a CDL or commercial driver's license?

3 MR. KEMP: Your Honor, can we approach?

4 MR. BARGER: I'll withdraw that  
5 question. Let me rephrase it.

6 BY MR. BARGER:

7 Q. The motor coaches are intended to be  
8 commercial vehicles; is that correct?

9 A. Yes.

10 Q. All right. Now, I want to visit with  
11 you about the FMVSS standards and some of the  
12 standards that apply or do not apply to the J4500  
13 and motor coaches. Okay?

14 A. Okay.

15 Q. All right. One, are there any  
16 government regulations from NHTSA that control the  
17 standards for aerodynamics or drag coefficient?

18 A. No.

19 Q. Were there any in 2007?

20 A. No.

21 Q. Okay. Were there any standards from the  
22 government that required certain front corner  
23 roundness or sweep in 2007?

24 A. No.

25 Q. Are there today?

009318

1 A. No.

2 Q. Are there any government standards with  
3 respect to the height of a motor coach?

4 A. Government standards, no.

5 Q. In 2007, were there any government  
6 standards on the height?

7 A. No.

8 Q. In two thousand -- today, are there any  
9 government standards on height?

10 A. No.

11 Q. What controls height of a coach?

12 A. Infrastructure of the marketplace.

13 Q. What does infrastructure mean?

14 A. Well, you have your overpasses. You  
15 have awnings on some hotels. You have a fixed  
16 structure in, like, airports, where the buses have  
17 to come underneath. It's the overall  
18 infrastructure that exists in the marketplace.  
19 It's like garage door heights. Those things  
20 depict the height of the vehicle.

21 Q. So, obviously, a manufacturer has some  
22 discretion as to how they design a bus, not  
23 totally regulated by the government?

24 A. That's correct.

25 Q. All right. With respect to width, in

009319

1 2007 were there any width standards that you had  
2 to comply with?

3 A. Yeah. Federal Highway, there was width  
4 standards.

5 Q. And that's from the Federal Highway?

6 A. Federal Highway.

7 Q. Okay. That's not NHTSA?

8 A. Not NHTSA.

9 Q. All right. Explain the Federal Highway.

10 A. That's the Federal Highway  
11 Administration. That's a government agency that  
12 oversees the federal highways.

13 Q. And what is their standard that you have  
14 to comply with with respect to width?

15 A. 102 inches.

16 Q. What does that mean?

17 A. Well, it's the width of the vehicle  
18 can't exceed 102 inches.

19 Q. Okay. The width of the bus cannot be  
20 more than 102 inches?

21 A. That's correct.

22 Q. It can be less?

23 A. It can be less.

24 Q. Okay. Now, was that standard in  
25 existence in 2007?

009320



1 A. Yes.

2 Q. Is it still in existence today?

3 A. Yes.

4 Q. All right. Now, the bus length, were  
5 there any government standards or regulations in  
6 2007 that discussed a requirement for the length  
7 of a bus?

8 A. Maximum length is controlled by the  
9 Federal Highway.

10 Q. And was that the same in 2007 as it is  
11 today?

12 A. Yes.

13 Q. So what are the rules for the federal  
14 government about the length of a bus?

15 A. For a motor coach, it's 45 feet.

16 Q. Does that mean it can be not more than  
17 45 feet?

18 A. Not more than 45 feet.

19 Q. Can it be less?

20 A. Yes.

21 Q. Okay. But never exceed 45 feet?

22 A. Yes.

23 Q. All right. Now, with respect to  
24 proximity sensors, in 2007 were there any federal  
25 government standards that required the use of

009321

1 proximity sensors?

2 A. No.

3 Q. Today is there any government standard  
4 that requires the use of proximity sensors?

5 A. No.

6 Q. With respect to -- there's an S-1 Gard  
7 involved in this case. You're familiar now with  
8 an S-1 Gard because of this case; right?

9 A. Yes.

10 Q. All right. Were there any standards by  
11 the federal government that required the use of an  
12 S-1 Gard in 2007?

13 A. No.

14 Q. Are there any standards today that  
15 require the use of an S-1 Gard?

16 A. No.

17 Q. Okay. Spats. The jury has heard some  
18 discussion of spats.

19 Can you remind us what a spat is on the  
20 rear wheel of a bus?

21 A. That's a covering over the drive axle  
22 typically. In our case it would be the drive and  
23 tag axle. It closes out the area over the axle,  
24 over the tires.

25 Q. Were there any government standards in

009322

1 2007 that required the use of spats?

2 A. No.

3 Q. Are there any government standards today  
4 that requires the use of spats?

5 A. No.

6 Q. Are there any standards in 2007 that  
7 required the use of a rear barrier system?

8 A. No.

9 Q. Okay. Are there any standards today  
10 from the federal government that dictate and  
11 require the use of a rear tire barrier system --

12 A. No.

13 Q. -- such as spats or S-1 Gards?

14 A. No.

15 Q. Okay. There are -- I know there's pages  
16 of lists that the government has dictated.

17 Can you just give us a couple of  
18 examples of what requirements you have to meet  
19 with respect to the bus.

20 A. Well, they've got FMVSS 121, and it  
21 covers braking. You have FMVSS 101 that covers  
22 displays and control. You have FMVSS 108 that  
23 covers the exterior lighting system. You have  
24 FMVSS 304 that covers the materials, the burn rate  
25 on the materials used on the vehicle. That's just

009323

1 some of them.

2 Q. Okay. I want you to describe the  
3 characteristics of a J4500. For instance, the  
4 front corner, the radiuses, and so forth.

5 A. Oh, the front end has roughly a 200-inch  
6 sweep at the front corner. Then it comes around  
7 to an 8-inch radius in the windshields. And then  
8 it goes into a sweep toward the 102-inch dimension  
9 above the B-post, the A-post being the front post  
10 and the B-post being the second post right behind  
11 the entrance door.

12 Q. The jury has had an opportunity to see a  
13 J4500 actually here at the courthouse.

14 Is that J4500, as the design engineer,  
15 is that a brick?

16 A. No.

17 Q. I'm not going to visit with you about  
18 the streamline because that's for other witnesses.  
19 But with respect to the design of the J4500, it's  
20 not designed like a brick or a flat front;  
21 correct?

22 A. No.

23 Q. All right. Now, what is the corner  
24 radius of a J4500?

25 A. Roughly 8 inches.

009324

1 Q. And what does it mean as corner radius?  
2 What does corner radius mean?

3 A. Well, just you look at the radius -- the  
4 radius is actually in the windshield. The  
5 windshield comes to the A-post, and that's the  
6 radius of the windshield.

7 Q. Now, I will suggest to you the  
8 following, that Dr. Breidenthal suggested to this  
9 jury that the J4500 has a flat front end with no  
10 significant corner radius on the sides.

11 I want you to assume he said that.  
12 Okay?

13 A. Okay.

14 Q. Is that true?

15 A. No.

16 MR. KEMP: Your Honor, can we approach?

17 THE COURT: Yes.

18 (A discussion was held at the bench,  
19 not reported.)

20 BY MR. BARGER:

21 Q. Could MCI have designed a J4500 coach  
22 with corner radiuses that were one-eighth of the  
23 total width of the front?

24 MR. KEMP: Your Honor.

25 THE COURT: Yes. You may approach.

009325

1 (A discussion was held at the bench,  
2 not reported.)

3 BY MR. BARGER:

4 Q. If you increased an 8-inch radius to a  
5 12-inch radius on the front corners, what would  
6 that affect the bus?

7 A. Well, as it stands today, it would  
8 increase the length of the bus, which we can't do.  
9 So we would have to change some of the design of  
10 the vehicle, take that space out of the passenger  
11 area, predominantly.

12 You can't change the front end area, the  
13 entrance area. That's required by ADA. You  
14 certainly can't affect the driver's area. That  
15 can't be shrunk. So you have to take it out of  
16 the passenger area.

17 And that would either reduce the  
18 hip-to-knee, as we refer to it, or the knee  
19 spacing, which is not preferable from the customer  
20 viewpoint. Or I suppose the other alternative is  
21 you could take out seats.

22 MR. BARGER: Can counsel approach the  
23 bench?

24 THE COURT: Certainly.  
25

009326

009326

1 (A discussion was held at the bench,  
2 not reported.)

3 BY MR. BARGER:

4 Q. I want you to assume that there has been  
5 a witness in this trial, Dr. Breidenthal, that  
6 spoke to the jury about glued windshields. Okay?  
7 And I want to ask you some questions about that.

8 Dr. Breidenthal, I will ask you to  
9 assume, testified that you needed to glue the  
10 windshields to make it whatever term he wanted to  
11 use. Okay?

12 A. Okay.

13 Q. Now, he used as an example the Setra,  
14 which is another manufactured bus company; right?

15 A. Yeah. It's a brand name of EVA bus,  
16 which is part of the Daimler group.

17 Q. Now, I want you to assume that he said  
18 it should be glued.

19 How does MCI put its windshields in?

20 A. We have a rubber lacing that holds the  
21 windshields in.

22 Q. So what does that mean?

23 A. Well, there's a rubber lacing that goes  
24 around the windshield and with what we call a  
25 locking strip. So what you do is, if you replace

009327

1 the windshield, you pull the locking strip and  
2 then remove the windshield out, take the  
3 windshield off and replace it.

4 Q. Does J4500 have basically two  
5 windshields, two sections?

6 A. Yes.

7 Q. So what is the problem with gluing --  
8 and, by the way, does Setra glue their windshields  
9 in the United States?

10 A. No.

11 Q. Whatever they sell overseas, they have  
12 examples of gluing, to your knowledge?

13 A. Well, I can't speak for all countries.  
14 I just know in the U.S. and Canada, they have it  
15 into a rubber strip. It's a different design  
16 strip -- type of strip, but it's the same function  
17 as what we use -- MCI uses and our competitors  
18 use.

19 Q. Do any other bus manufacturers that sell  
20 buses in the United States or used in the United  
21 States use glued windows as opposed to the rubber  
22 strip?

23 A. No. They're all using the rubber strip.

24 Q. And what is the reason for using a  
25 rubber strip and not glue?

009328



1           A.    Ability to be able to change a  
2 windshield relatively quickly. The split --  
3 single-piece windshields are obviously very large  
4 and cumbersome.

5                   And you have a motor carrier regulation  
6 that the operator is supposed to, if you have a  
7 crack or a couple of pits of a certain size in the  
8 windshield viewing area, that the -- he must  
9 change the windshield. It basically goes out of  
10 service. That's the requirement.

11                  So, as a result of that, the operators  
12 in the U.S. do not accept glued-in windshields  
13 because of the time it takes to change the  
14 windshield.

15           Q.    For example, if there's a motor coach on  
16 a tour and they get a cracked windshield, do they  
17 have to park the vehicle with their passengers in  
18 it until they get a new windshield put in?

19           A.    That's what the regulations require.  
20 I'm not sure the -- I can't speak for all  
21 operators that they actually do that.

22           Q.    But the rules require them to do that?

23           A.    The rules require them.

24           Q.    Okay. I'm not going to ask you about  
25 proximity sensors, but what I am going to ask you,

009329

1 I want you to assume there was testimony in this  
2 trial about the early VORAD sensor.

3 MR. KEMP: Your Honor, can we approach?

4 THE COURT: Okay.

5 (A discussion was held at the bench,  
6 not reported.)

7 MR. BARGER: If I can just have a  
8 second, Your Honor.

9 THE COURT: Certainly.

10 BY MR. BARGER:

11 Q. Sir, have you ever heard of an accident  
12 where it was claimed that someone was air-blasted  
13 into the side of a J4500 motor coach and then run  
14 over by a rear tire?

15 A. No.

16 Q. With respect to the S-1 Gard that is in  
17 this case, had you ever heard of an S-1 Gard prior  
18 to this case?

19 A. No.

20 Q. Okay. If, hypothetically, someone  
21 brought you an S-1 Gard -- and you've seen the  
22 S-1 Gard in this case?

23 A. Yes.

24 Q. -- and wanted to suggest that MCI should  
25 put it on, what would you expect to have been done

009330

1 by the manufacturer of that S-1 Gard if you were  
2 to consider to put it on your coach?

3 MR. KEMP: Your Honor.

4 THE COURT: Yes.

5 (A discussion was held at the bench,  
6 not reported.)

7 MR. BARGER: May I proceed?

8 THE COURT: Yes.

9 BY MR. BARGER:

10 Q. The jury saw -- I want to tell you the  
11 jury saw your deposition played in the first part  
12 of this case. Okay?

13 A. Okay.

14 Q. And there was some questions about were  
15 you aware that the S-1 Gard had been placed on the  
16 Capital transit authority in Austin, Texas? Not  
17 by MCI, but by Capital transit.

18 And you answered that. But were you  
19 aware, in your responsibilities as engineer, have  
20 you learned that the Capital transit in Austin put  
21 the S-1 Gard on some buses? Have you heard that?

22 A. Yes.

23 Q. Have you learned as to whether -- you  
24 testified at the trial by your deposition, you  
25 told the jury you've learned that they've had

009331

1 problems with that.

2 Can you explain what you learned.

3 A. They have problems with it being damaged  
4 due to curbs and other things, as we understand  
5 it.

6 Q. Okay. Obviously, you've not been  
7 investigated that because that's Capital transit's  
8 decision on their buses. But you've learned that  
9 they've had problems with the S-1 Gard; correct?

10 A. That's what we understand, yes.

11 Q. Okay. Now, I'm going to ask you just a  
12 couple more questions, and I'll be through.

13 I want you to assume that there has been  
14 testimony in this case with respect that you  
15 should put an all-glass passenger entry door into  
16 an MCI bus instead of the way it's currently  
17 designed.

18 Okay. I want you to assume that  
19 testimony. All right?

20 A. Okay.

21 Q. All right. What would be the problem,  
22 if any, of using an all-glass passenger door on a  
23 motor coach?

24 A. Noise.

25 Q. Can you explain what you mean by noise.

009332

1           A.    The motor coach has to -- operates at  
2 high speeds, and we have to keep the noise level  
3 to a minimum in the passenger area for passenger  
4 comfort as well as for the driver. There's even a  
5 motor carrier requirement on driver noise.

6           All-glass doors that are used, like on  
7 transit buses, would not seal as well, and we need  
8 to seal a front door of a motor coach because of  
9 the wind noise. So that's why I don't believe  
10 it's feasible.

11          Q.    The noise level going 60, 70 miles an  
12 hour that wasn't sealed with the door would make  
13 noise?

14          A.    In my opinion, it would make noise  
15 similar to -- it would be an unacceptable noise  
16 level to the driver and the passenger.

17          Q.    Okay. Now, I want to ask you just a few  
18 more questions, and I'll be done.

19                At any time prior to this accident did  
20 MCI consider aerodynamic issues would be a safety  
21 issue and it would be unsafe because of the  
22 aerodynamic design of the J4500?

23          A.    No.

24          Q.    Did MCI ever think someone would get  
25 injured based on the aerodynamics of its coach?

009333

1 A. No.

2 Q. Did MCI ever have notice that a  
3 pedestrian or bicyclist was injured due to a  
4 right-side blind spot with a J4500?

5 A. No.

6 Q. Did you ever consider that a right-side  
7 blind spot was a problem that would cause a safety  
8 issue?

9 A. No.

10 Q. Do you agree that there can be a  
11 right-side blind spot in a very limited portion?  
12 I don't want to go into that because we had  
13 experts talk about it, but do you agree with that,  
14 it can happen?

15 A. Can happen.

16 Q. Do you agree it happens with all  
17 vehicles?

18 A. All vehicles.

19 Q. Okay. Did MCI ever think that a  
20 right-side blind spot would be a safety issue that  
21 would cause serious problems?

22 A. No.

23 Q. At any time prior to this accident --  
24 I've asked that question.

25 Did MCI think that some sort of rear

009334

1 tire barrier system was needed in the J4500 at any  
2 time prior to this accident?

3 A. No.

4 Q. Did you consider the absence of a  
5 barrier system to be a safety problem?

6 A. No.

7 MR. BARGER: If I may have one minute to  
8 confer?

9 THE COURT: Certainly.

10 MR. BARGER: That's all the questions I  
11 have at this time, Your Honor.

12 THE COURT: Okay.

13  
14 CROSS-EXAMINATION OF VIRGIL HOOGESTRAAT

15 BY MR. KEMP:

16 Q. Okay. Mr. Hoogestraat, let's try to go  
17 over each one of the areas that you've gone over  
18 with counsel.

19 MR. KEMP: Can you hear me?

20 THE COURT: Can you make it a little bit  
21 louder.

22 MR. KEMP: How's that?

23 BY MR. KEMP:

24 Q. Okay. You were asked whether or not the  
25 J4500 is a brick.

009335

1 Remember that testimony?

2 A. Yes.

3 Q. You don't know what the drag coefficient  
4 is of a J4500, do you?

5 A. No, I do not.

6 Q. Because MCI, to this day, to this very  
7 day, has not run a wind tunnel test on a J4500?

8 A. We have not run a wind tunnel test.

9 Q. So you don't know whether it's .6, .7?  
10 You just don't know?

11 A. We don't know.

12 Q. Okay. And you do know that other buses,  
13 such as the Setra 500 made by Mercedes, have low  
14 drag coefficients, like .33? You do know that?

15 A. That's what they advertise, yes.

16 Q. So Mercedes -- and it's Mercedes and  
17 Daimler. You use Daimler; I use Mercedes. It's  
18 the same group.

19 A. Mercedes is a --

20 Q. Daimler owns Mercedes?

21 A. No. Well, Mercedes is a brand name.  
22 That's all.

23 Q. Okay. So when I say Mercedes, you know  
24 who I'm talking about?

25 A. Yes.

009336



1 Q. So the Mercedes coach has about a .33,  
2 according to Mercedes?

3 A. That's what they advertise.

4 Q. And we don't know what a J4500 is? It  
5 could be double that?

6 A. We don't know what it is.

7 Q. Okay. Now, you were asked whether or  
8 not you knew about any accidents involving  
9 right-side blind spots.

10 Do you remember that question?

11 A. Yes.

12 Q. What about left-side blind spots? Do  
13 you know of accidents involving left-side blind  
14 spots?

15 A. No.

16 Q. And, specifically, Mr. Sherlock told us  
17 about an accident that happened in New Jersey  
18 involving an MCI bus where someone was killed, a  
19 left-side blind spot. You've never heard that?

20 A. On a J? No.

21 Q. On an MCI bus.

22 A. That was reported that occurred in New  
23 Jersey, yes.

24 Q. So you have heard about blind spot  
25 accidents happening with MCI buses in New Jersey,

009337

1 more specific a death case; correct?

2 A. I heard about an incident where an MCI  
3 bus -- it was a D coach -- that hit a pedestrian  
4 in New Jersey. I did not hear that it was due to  
5 a blind spot.

6 Q. Okay. What about the New York case?  
7 Did you hear that there was also a death case in  
8 New York involving an MCI bus that involved a  
9 blind spot issue?

10 A. Not that I understood it was a blind  
11 spot issue. I did hear about an incident in New  
12 York many years ago.

13 Q. Did you hear that there was an  
14 allegation that the person in New York was killed  
15 because there was a blind spot issue?

16 A. I did not hear about a blind spot issue.

17 Q. Are you familiar with these accidents --  
18 accident investigation is not your area?

19 A. I do not investigate all accidents.

20 Q. Okay. Okay. Now, you said that the  
21 manufacturer has some discretion in how to design  
22 a bus; correct?

23 A. Yes.

24 Q. And on the standards, we talked about,  
25 in the direct, two different types of standards,

1 the NTSA standard?

2 A. It's an NHTSA.

3 Q. Oh, okay. I was going to say NHTSA, but  
4 I thought I'd spell it.

5 So we have the NHTSA standard and the  
6 Federal Motor Vehicle Safety Act; right? Two  
7 different standards?

8 A. Yeah, Federal Motor Carrier.

9 Q. Now, there are no standards whatsoever  
10 that the federal government gives with regards to  
11 right-side blind spots, left-side blind spot,  
12 visibility. No standards; right?

13 A. There's no standard on visibility.

14 Q. So you, the bus manufacturer, have  
15 complete discretion in that area; right?

16 A. To some extent, yes.

17 Q. To all extents; right?

18 A. No, I disagree with all extents.

19 Q. Let's talk about proximity sensors.

20 There's no standard from the federal  
21 government on proximity sensors; correct?

22 A. To date, that's correct.

23 Q. Do you think one's coming?

24 A. I have no idea.

25 Q. I was wondering why you said "to date."

009339

1 A. Because that's what I know.

2 Q. Okay. All right. Now, with regards  
3 to -- so a manufacturer can do what it wants to  
4 with regards to proximity sensors; correct? You  
5 have discretion?

6 A. Yeah, it's a discretion in what you do.

7 Q. All right. Now, with regards to  
8 protective barriers, there's no standard from the  
9 federal government on what you can do or not do  
10 with protective barriers; correct?

11 A. What do you mean by -- well, in a  
12 general sense, that's --

13 Q. Rear tire protective barriers. I'm  
14 sorry.

15 A. Oh. No, there's no requirement from the  
16 federal government in regard to that.

17 Q. So MCI can do what they want?

18 A. To some extent.

19 Q. You could design your own protective  
20 barrier if you wanted?

21 A. To some extent.

22 Q. Have you tried to do that? Have you  
23 tried to design a protective barrier for the rear  
24 tires?

25 A. Are you talking about the spats?

009340

1 Q. I'm not talking about spats. You and I  
2 had a long conversation at your deposition about  
3 potential protective barriers.

4 A. Oh, you're referring to that?

5 Q. Yeah. You haven't tried to design  
6 anything, have you?

7 A. We have not done that.

8 Q. Okay. Now, with regards to S-1 Gards,  
9 the federal government doesn't have a standard  
10 requiring or not requiring S-1 Gards for motor  
11 coaches; correct?

12 A. That's correct.

13 Q. The transit buses, the federal  
14 government encourages the use of S-1 Gards for  
15 transit buses, do they not?

16 A. I don't know that.

17 Q. Isn't it true that the federal  
18 government will reimburse municipal transit  
19 companies if they put S-1 Gards on transit buses?

20 A. I don't know that. I know that the  
21 federal funding is 80 percent of the purchase of  
22 the vehicle. That's what I know. But I don't  
23 know that they specifically separate out  
24 S-1 Gards.

25 Q. So you do know that if you put an

009341

1 S-1 Gard on, and you're a transit bus, that the  
2 federal government will pay 80 percent of it?

3 A. On the purchase price of the vehicle. I  
4 don't know what they pay the transit authority. I  
5 think what you're saying -- and maybe I'm  
6 misunderstanding -- is that they will pay the  
7 transit authority directly if they put it on. I  
8 don't know that.

9 Q. Well, it's actually put on in the  
10 factory with transit buses, is it not?

11 A. Then it would be in the bid spec and --  
12 if that's what you mean. And, therefore, then the  
13 federal government will pay 80 percent of it.

14 Q. Are we outside of your area?

15 A. No, but I'm just trying to clarify.

16 Q. All right.

17 A. You use different terminology than I do,  
18 I guess.

19 Q. Okay. Let's try to focus on the glued  
20 windshield testimony.

21 A. Yes.

22 Q. Okay. The bus has a piece of trim that  
23 divides the front -- it's placed at the front  
24 corner of the bus; right? What do you call that?  
25 We had this problem yesterday. I called it one --

009342

1           A.    Are you talking about the windshield  
2 lacing, the rubber strip that goes around the  
3 windshield?

4           Q.    The rubber strip.   Okay?

5           A.    Okay.   That's --

6           Q.    All right.   Now, I think the issue that  
7 Dr. -- or excuse me -- Mr. Sherlock talked about  
8 was whether that could be flush with the glass or  
9 not, not whether it could not be used.

10                    Could you have made that flusher with  
11 the glass?

12           A.    Well, right now, it only stands off the  
13 glass 3/8 of an inch because it has to go over the  
14 glass to catch the glass.   So --

15           Q.    It stands off the glass 3/4 of an inch;  
16 right?

17           A.    Maybe at the peak, maybe.

18           Q.    And that peak is right in the right  
19 front corner of the bus; correct?

20           A.    Well, it's right there where it flushes  
21 out to the A-post.   Is that what you mean?

22           Q.    On this particular bus, it's right there  
23 where the A-post is; right?   The peak of the trim.

24           A.    Well, it's right at the joint of the  
25 trim.

009343

1 Q. Okay. And would I be correct that other  
2 bus manufacturers move the trim around more  
3 towards the front of the bus or back a little bit  
4 so it's not in the right corner? You've seen  
5 that?

6 A. I have not seen that. I think they all  
7 have it roughly at the same place.

8 Q. Okay. Have you looked at the Setra?

9 A. Oh, yeah.

10 Q. Setra does not have trim in the right  
11 corner the same place as the S4500 [sic], does it?

12 A. Are you talking about the 417 or the  
13 500?

14 Q. I'm talking about the 500.

15 A. The 500 is -- the 417 sold in the U.S.  
16 has it there.

17 Q. Okay. Well, let's talk about the 500.  
18 There's an application pending right now for the  
19 500 to come on the U.S. market; correct?

20 A. Not that I'm aware of.

21 Q. Okay. All right. Let's talk about  
22 Capital Metro. That's the customer you said was  
23 using the S-1 Gards. And you think they had some  
24 sort of problem; right?

25 A. Yes.

009344



1 Q. Okay. Now, prior to your deposition in  
2 October, you'd never even heard of an S-1 Gard?

3 A. That's correct.

4 Q. Okay. Now, with regards to Capital  
5 Metro, you think there's a problem because someone  
6 at MCI told you that they had talked to someone at  
7 Capital Metro, and they had described some sort of  
8 problem? That's how your information is; right?

9 A. Yeah, I got it from our service rep.

10 Q. So it's not based on your personal  
11 knowledge; it's based on two layers of testimony  
12 being transmitted. Right?

13 A. Well, it came from our service rep,  
14 yeah.

15 Q. Okay. And you didn't do any  
16 investigation?

17 A. What do you mean?

18 Q. You didn't go down there yourself and  
19 personally verify whether there was or was not a  
20 problem?

21 A. No, I didn't go there.

22 Q. And this was a J4500 bus, so you --

23 A. No, it was not.

24 Q. It was an MCI bus?

25 A. It was an MCI bus.

009345

1 Q. Okay.

2 All right. Now, you referred to the  
3 coaches in general as being a high amenity; is  
4 that correct?

5 A. For a tour market, it's high amenities.

6 Q. Okay. And we have the E series?

7 A. Yes.

8 Q. And then you took out all the complex  
9 things in the E series and you made the J series?

10 A. And restyled it, yes.

11 Q. Okay. So, basically, the J series is a  
12 less complex version of the E series?

13 A. That's one way to look at it.

14 Q. And would I be correct that the E series  
15 is more expensive than the J series?

16 A. Yes.

17 Q. So in about 2007, 2008, the E series  
18 would cost approximately \$430,000 a bus?

19 A. Approximately.

20 Q. And the J series would be the cheaper  
21 edition, somewhere between 390, \$400,000 a bus?

22 A. 410, something like that.

23 Q. So, basically, the J series is a cheaper  
24 edition of the E series; correct?

25 A. No, it's the simplified version. I

009346

1 don't know why you'd call it cheaper.

2 Q. Well, if you pay 430,000 compared to  
3 400,000, is that not cheaper?

4 A. It's lower cost.

5 Q. Okay.

6 All right. Now, you said that the  
7 E coach design started in 1992; correct?

8 A. Roughly in that neighborhood, '92, '93  
9 time period.

10 Q. Would you agree that a bus manufacturer  
11 who has a product line that starts in 1992 should  
12 search for and evaluate new technology during the  
13 time period the bus continues to be on the market?

14 A. Yes.

15 Q. Who at MCI was responsible for searching  
16 for and evaluating new safety technology first for  
17 the E coach?

18 A. That would be -- the leader of the  
19 E coach at that time was a guy by the name of Mark  
20 Sealy.

21 Q. Mark Sealy was actually the designer of  
22 the E coach; correct?

23 A. Yeah.

24 Q. And, after a couple years, he went back  
25 to England, didn't he?

009347

1 A. At some point, he went back to England.

2 Q. So you're not telling the jury that  
3 Mr. Sealy, who was no longer an employee back in  
4 England, was responsible for searching and  
5 evaluating new safety technology for the E coach?  
6 You're not telling them that, are you?

7 A. No. I mean, it's all MCI engineering's  
8 responsibility to look for that, as well as  
9 product planning.

10 Q. So it was everybody's responsibility to  
11 search for and evaluate new safety technology for  
12 the E series?

13 A. Right.

14 Q. Same for the J series?

15 A. Yes.

16 Q. And the S-1 Gard, the patent was filed  
17 in approximately 1995. Are you aware of that?

18 A. At some period of time like that.

19 Q. So we have S-1 Gards on the market from  
20 1995 to 2000, 2000 to 2007, when this bus was  
21 made, a period of about 25 years. It's someone's  
22 job to search for and evaluate that existing  
23 technology; right?

24 A. How did you come up with 25 years?

25 Q. That patent was -- maybe my math is

009348

1 wrong. Okay. You got me, Mr. Hoogestraat.

2 If the patent is filed in '95, that's  
3 five years. And we make the bus in 2007, 2008,  
4 another 12 years -- or seven years equals 12;  
5 right?

6 A. Okay. 12.

7 Q. So you're telling me that the bus  
8 manufacturer should have searched for and  
9 evaluated the new safety technology for previously  
10 designed buses, but you didn't know about the  
11 S-1 Gard until this case started in 2017?

12 A. I did not know about the S-1 Gard until  
13 this case.

14 Q. So for the eight years from '92 through  
15 2000, and from 2000 until 2017 -- that's how I got  
16 the 25 -- for a quarter of a century, you didn't  
17 know about an S-1 Gard?

18 A. About an S-1 Gard.

19 Q. Okay. Now, let's talk about these  
20 questions about all-glass doors. Okay?

21 A J4500 -- and let's use the 2007 -- on  
22 the door, there's the top part, the middle part,  
23 and the bottom part. Are you with me so far?

24 A. Yes.

25 Q. And the bottom part has some glass in

009349

009349

1 it; right?

2 A. Yes.

3 Q. And that is glass that's framed with  
4 some sort of trim?

5 A. Well, it's framed glass, yeah.

6 There's --

7 Q. Framed glass. Okay. But you can see  
8 through that?

9 A. You can see through it.

10 Q. And the top part, you can see through  
11 too; right?

12 A. Yes.

13 Q. That's frame trim?

14 A. Well, it's glass. Yeah, it's the same  
15 glass as the windshield.

16 Q. But the middle part, you can't see  
17 through; right?

18 A. That's correct.

19 Q. Because you didn't use the framed glass  
20 in that area?

21 A. That's correct.

22 Q. So you could have used framed glass in  
23 that area?

24 A. No.

25 Q. No, you couldn't have?

009350

1 A. No.

2 Q. Why is that?

3 A. We need the strength of the door. The  
4 door has to have adequate strength to seal  
5 properly. And it's a very large door.

6 Q. So the bottom, you can use framed glass,  
7 but not the middle? That's your testimony today?

8 A. I'm telling you that we need the  
9 strength in the door to be able to properly seal  
10 that door.

11 Q. Let me just see if I got your testimony  
12 right.

13 You can use the framed glass on the  
14 bottom, but you can't use it on the middle of the  
15 exact same door? That's what you're telling me?

16 A. I'm telling you we need that strength in  
17 that door to get it to properly seal.

18 Q. Mercedes doesn't seem to have a problem  
19 doing that, do they?

20 A. I don't know that.

21 Q. You don't know one way or the other  
22 whether or not they have glass in the middle of  
23 their doors?

24 A. I don't know that.

25 Q. Okay. Now, are you familiar with a

009351

1 trade magazine called Bus & Motorcoach News?

2 A. Yes.

3 Q. And you subscribe to that personally?

4 A. I believe I get that, yes.

5 Q. And now you get it electronically?

6 A. Yes.

7 Q. Comes straight to your computer?

8 A. Yes.

9 Q. But back -- 198 -- but back in  
10 October 2007, it didn't come straight to your  
11 computer?

12 A. No, I don't believe so.

13 Q. How long have you subscribed to Bus &  
14 Motorcoach News?

15 A. I really don't know.

16 Q. This is the leading publication in the  
17 motor coach industry; right?

18 A. It's one of them, yes.

19 Q. Okay. So you've subscribed for decades?

20 A. For what?

21 Q. Decades?

22 A. Obviously not.

23 Q. How long have you subscribed to it?

24 A. The decades? I don't know that magazine  
25 decades. I'm sorry. I'm not understanding you.

009352



1 Q. How about 2002? Have you subscribed to  
2 it since 2002?

3 A. Are you referring to the Motorcoach  
4 News? I'm -- I'm --

5 Q. Bus & Motorcoach News.

6 A. Oh, that's what you're referring to.

7 Q. Right.

8 A. Yeah, I would suspect for a long time.

9 Q. Including back to 2002?

10 A. I would suspect so.

11 Q. And you're not the only person at MCI  
12 that subscribes to Bus & Motorcoach News; correct?

13 A. No.

14 Q. What do you think? 20? 30? 40? 50?  
15 How many other people subscribe?

16 A. I have no idea.

17 Q. A lot of people?

18 A. I don't know if it's a lot of people,  
19 but there's a number of people, I'm sure.

20 Q. More than 10?

21 A. I would assume so.

22 Q. Okay. And in addition to subscribing,  
23 MCI places ads in Bus & Motorcoach News; right?

24 A. Yes.

25 Q. And what I'm holding in my hand is an ad

009353

1 for the J4500 that appeared on the cover of the  
2 October 15th, 2007, edition.

3 A. Okay.

4 Q. Okay?

5 As we sit here today, you don't recall  
6 one way or the other if you got the October 15th,  
7 2007, edition; correct?

8 A. No, I can't remember that.

9 Q. Okay. Any reason to believe that that's  
10 just the one issue you missed?

11 A. I don't remember what -- a magazine in  
12 2007.

13 Q. Let me check my notes, Mr. Hoogestraat.  
14 Maybe we're done.

15 So on right-side blind spots, you agree  
16 there's a right-side blind spot on the J4500?

17 A. As I've -- in my deposition, I said the  
18 mirror itself is a blind spot. You can't see  
19 through a mirror.

20 Q. Okay. A couple days ago, we had  
21 Mr. Krauss, who testified -- Dr. Krauss --  
22 Dr./Mr., I can't -- a man named Krauss. And he  
23 testified that his company had measured a 40-inch,  
24 5-foot-deep right-side blind spot on the J4500.

25 Would you agree with that?

009354

1           A.    I didn't -- I don't know what his  
2 testimony was or how he came to anything, so I  
3 can't respond.

4           Q.    Okay. And you can't refute it either  
5 since you can't respond?

6           A.    I can't respond. I don't know what  
7 he -- where he came up with that. I can't respond  
8 at all. I don't know.

9           MR. KEMP: I have no further questions.

10          THE COURT: Mr. Barger?

11          MR. BARGER: Could we approach for a  
12 second?

13          THE COURT: Yes.

14                (A discussion was held at the bench,  
15                not reported.)

16  
17          REDIRECT EXAMINATION OF VIRGIL HOOGESTRAAT  
18 BY MR. BARGER:

19          Q.    I've got a couple questions. Okay?  
20                You were asked a question about a New  
21 Jersey -- accident that happened in New Jersey.  
22 Do you know anything about that case?

23          A.    Very little. I just saw the video of  
24 the -- there was a street video of what occurred.  
25 I saw that.

1 Q. All right. And that video -- I mean --  
2 well, in New Jersey that accident occurred when a  
3 left-turning bus left its lane and killed an  
4 82-year-old pedestrian. Is that your  
5 understanding?

6 A. That's my understanding.

7 Q. It was the left side, and the bus went  
8 out of its lane and hit somebody?

9 A. Yes.

10 Q. Nothing to do about what we're talking  
11 here, is it?

12 A. That's my opinion. That's why I said it  
13 wasn't a blind spot.

14 Q. Now, spats. There was a mention of  
15 spats. Tell us why, if it's correct, a coach --  
16 motor coach would have difficulty putting spats  
17 on. What would be the problems that you would  
18 develop?

19 A. Motor coaches run at a very high speed,  
20 60, 70 miles an hour. As a result of that, it has  
21 extremely hot tires. And we have to cool the  
22 tire. We use airflow to cool the tires.

23 And in addition to that, because of some  
24 of the operations we run in certain mountains, we  
25 have significant issues with brake cooling.

009356

1           So we cannot close off the tire area,  
2 the cooling -- the airflow to the tires and the  
3 brakes.

4           Q.   Transit buses, some have spats; some  
5 don't. Right?

6           A.   Yeah, I've seen them on.

7           Q.   Okay. Does a transit bus operate in a  
8 different condition, where spats may not present a  
9 problem as it would for a motor coach at high  
10 speeds and in the mountains?

11          A.   Transit buses run at much lower speed.  
12 They have much less of a concern with tire heat  
13 than a motor coach because of the high-speed  
14 operation. And, because of that, apparently, some  
15 of them can get them to work.

16          Q.   The J series costs \$20,000 less than the  
17 E series?

18          A.   Approximately.

19          Q.   Doesn't make it a cheaper bus, does it,  
20 when cheap is trying to imply it's not any good?

21          A.   No, it's been a very successful product.  
22 I mean, it's --

23          Q.   My question is the following: What  
24 specific things did you change with respect to the  
25 J and the E that it now costs \$20,000 less?

1           A.   Well, we took off the steerable tag,  
2   went to the fixed tag axle; went from disc brakes  
3   to drum brakes; went to mechanical leveling. We  
4   went to individual gauges instead of blacklighting  
5   the instrument panel. Those were the changes we  
6   made predominantly. Amongst systems cost-wise, it  
7   was probably close to -- a little less.

8           Q.   Those changes were made because of  
9   customer requests?

10          A.   Yes.

11               MR. BARGER: That's all I have, Your  
12   Honor. Thank you.

13               THE COURT: Thank you.

14               MR. KEMP: Just briefly.

15  
16               RE CROSS-EXAMINATION OF VIRGIL HOOGESTRAAT  
17   BY MR. KEMP:

18           Q.   Spats are things that you --

19               MR. BARGER: Will, Will -- sorry.

20   BY MR. KEMP:

21           Q.   This will be quick.

22               MR. KEMP: Wore out the battery, Your  
23   Honor, so I will try without.

24               THE COURT: Are we out of battery?

25               MR. KEMP: It's flickering, but let's

1 just try it. I'll be quick, Your Honor. Let's  
2 just try to get through.

3 BY MR. KEMP:

4 Q. So spats are the coverings that go on  
5 the outside of buses?

6 A. Yes.

7 Q. In other words, the bus wheel is totally  
8 covered by some piece of metal?

9 A. Or some material, yeah.

10 Q. And they do use spats in hot places like  
11 Las Vegas; right?

12 A. I've seen them on the buses here -- on  
13 transit buses.

14 Q. Yeah, the buses here have spats to  
15 protect the wheels; right?

16 A. I don't know why they have spats.

17 Q. Okay. Well, you do know that they are  
18 apparently functioning pretty good in 120-degree  
19 weather; right?

20 A. No, I don't know that.

21 Q. So you think that the spats are a  
22 problem with the operator here in Las Vegas with  
23 the 120 --

24 A. No, I don't know that either.

25 Q. Okay. All right. So what you told us

009359

1 is that you could not use spats on the J4500  
2 because you're worried about the heat problem?

3 A. Yes.

4 Q. But we're not talking about spats in  
5 this case, are we? We're talking about an  
6 S-1 Gard; right?

7 A. Well, the question I was asked is about  
8 spats.

9 Q. That question you were asked is about  
10 spats. You do not have a heat problem with an  
11 S-1 Gard; right?

12 A. A heat problem?

13 Q. A heat problem.

14 A. Heat problem. I don't know if it would  
15 affect heat at all.

16 Q. So the testimony you gave about spats  
17 being a concern with the J4500 because of heat,  
18 that would not apply to an S-1 Gard; correct?

19 A. I don't know that it would -- it would  
20 cause a heat problem.

21 MR. KEMP: Thank you.

22 MR. BARGER: I would like to approach  
23 the bench if we could, Your Honor.

24 (A discussion was held at the bench,  
25 not reported.)

009360



1 MR. BARGER: That's all we have for the  
2 witness, Your Honor.

3 THE COURT: Okay. Does the jury have  
4 any questions for this witness?

5 THE MARSHAL: We do have a couple.

6 THE COURT: Okay.

7 (A discussion was held at the bench,  
8 not reported.)

9 THE COURT: Mr. Hoogestraat, sir, over  
10 here.

11 The jury has asked some questions. Some  
12 will be asked, others will not for other reasons.

13 The first question that you may answer  
14 is "Do you know whether or not testing has been  
15 done with different types of glass doors on the  
16 J4500?"

17 THE WITNESS: There has not been.

18 THE COURT: I'm sorry?

19 THE WITNESS: There has not been other  
20 testing with other glass doors. The doors were  
21 designed for the sealing effect of the door. So  
22 because of that limitation of trying to keep that  
23 door sealed and close off, that structure was  
24 laid -- that's how the structure was developed.  
25 The fact that there's glass above is for

009361

1 visibility out the window, obviously, and down  
2 below for visibility, but beyond that, we are very  
3 limited in our capability of keeping that  
4 structure adequate to keep it sealed.

5 THE COURT: Okay. So the answer was no?

6 THE WITNESS: No.

7 THE COURT: Okay. So I'm still going to  
8 read the second question.

9 "If so, were there conclusions made and  
10 or documented?"

11 THE WITNESS: There was no document.  
12 That was just part of the design process.

13 THE COURT: "What are the regulations on  
14 dash height requirements?"

15 THE WITNESS: No, there's no regulation.

16 THE COURT: Okay. Thank you.

17 MR. BARGER: I have no further  
18 questions.

19 MR. KEMP: None, Your Honor.

20 THE MARSHAL: No questions?

21 No other questions, Your Honor.

22 THE COURT: All right. You're excused,  
23 sir.

24 THE WITNESS: Thank you.

25 (Witness excused.)

009362

1           THE COURT: At this time, we're going to  
2 take a 15-minute break, and I'm going to read you  
3 the admonishment.

4           You're instructed not to talk with each  
5 other or with anyone else about any subject or  
6 issue connected with this trial. You're not to  
7 read, watch, or listen to any report of or  
8 commentary on the trial by any person connected  
9 with this case or by any medium of information,  
10 including, without limitation, newspapers,  
11 television, the internet, or radio.

12           You're not to conduct any research on  
13 your own relating to this case, such as consulting  
14 dictionaries, using the internet, or using any  
15 reference materials. You're not to conduct any  
16 investigation, test any theory of the case,  
17 re-create any aspect of the case, or in any other  
18 way investigate or learn about the case on your  
19 own.

20           You're not to talk with others, text  
21 others, tweet others, message others, google  
22 issues, or conduct any other kind of book or  
23 computer research with regard to any issue, party,  
24 witness, or attorney involved in this case.

25           You are not to form or express any

009363

1 opinion on any subject connected with this trial  
2 until the case is finally submitted to you.

3 See you in 15 minutes.

4 THE MARSHAL: All rise. Court is in  
5 recess, 15 minutes.

6 (The following proceedings were held  
7 outside the presence of the jury.)

8 MR. BARGER: My next witness is our last  
9 witness. And I've got a lot of exhibits ready to  
10 premark.

11 THE COURT: That might be a good idea.

12 MR. BARGER: We just need to figure out  
13 if he has any objections.

14 MR. ROBERTS: The last live witness, we  
15 still have the tax clip, as Your Honor knows.

16 THE COURT: That's right.

17 MR. ROBERTS: With regard to that, the  
18 plaintiffs did file a brief with regard to  
19 Dr. Smith. The record indicates that the first  
20 clip will mirror Mr. Roberts' questioning of  
21 Mr. Stokes relative to what is appropriate numbers  
22 pretax, posttax. So those match up.

23 Mr. Christiansen then says, the second  
24 one would be Lucido, which is the other case Your  
25 Honor has for impeachment.

1           It's my understanding that the Court's  
2 ruled on that, so we don't have to address that  
3 further in briefing. Is that correct? The  
4 admissibility of Lucido.

5           MR. KEMP: We filed a brief on that. So  
6 Mr. Roberts can't just get up and say, "Oh,  
7 they've filed a brief on that. So, Judge, you've  
8 already ruled on that. Forget their brief," which  
9 is what he's doing.

10           MR. ROBERTS: If you're inclined to  
11 reconsider your ruling, I don't think I need a  
12 brief. I'm prepared to reargue it. I think the  
13 Court understands our theory and articulated the  
14 decision well. So I'm prepared to argue that  
15 without briefing. But if the Court feels it needs  
16 briefing to address any particular issue that  
17 they've raised, I'm happy to get that done.  
18 That's why I'm asking.

19           The third issue was stated to be on the  
20 day of Dr. Barin, Katy Barin, surviving  
21 Dr. Khiabani and her estate inheriting her claim  
22 for loss of income.

23           THE COURT: Correct.

24           MR. ROBERTS: That's what the Court said  
25 you wanted briefing on. But, as I read their

009365

1 brief, it just argues that it's a windfall for us  
2 not to include that money. They don't argue that  
3 it should go to the estate. They don't cite any  
4 legal authority. So I don't see an issue there to  
5 brief. But if they could clarify, if they're  
6 still making that argument, then I'll brief it.

7 MR. KEMP: Judge, the 15 million had to  
8 go somewhere. I mean, their argument is might  
9 have gone to the wife, might have gone to the  
10 boys. But since she died, we're just going to  
11 constrict it and say that we get the windfall; we  
12 get the benefit of that.

13 And that is just not the law, Your  
14 Honor, that they get the benefit of it. Either  
15 that would have gone to the estate of -- it would  
16 have gone to Katy Barin when she was alive. Under  
17 our inheritance statutes, it's 50 percent to the  
18 wife and one-half and one-half to heirs if there's  
19 children. So it would have been 50-50. So half  
20 of that would have been 7 1/2 million to her and  
21 the other half would have went to the boys.

22 Now, she dies. Where does the  
23 7 1/2 million go that she got from the husband?  
24 It goes to the boys.

25 So our position is pretty simple here.

1 There's 15 million involved. It's got to go  
2 somewhere. The one place it can't go for sure is  
3 the pocket of MCI. They don't get a windfall, cut  
4 the damages award in half by saying, oh, Dr. Barin  
5 died.

6 And the argument we made at the bench  
7 was let's imagine we try this case. We got a  
8 verdict when Dr. Barin was still alive and then  
9 she dies the day after the trial and all of a  
10 sudden the damages are cut in half? That's just  
11 not the way it would have been. And the reason is  
12 that claim belonged to her. Now it belongs to the  
13 estate.

14 So to the extent it would have gone  
15 anywhere, it would have either gone to her or it  
16 would have gone to the boys ultimately. You know,  
17 there's just no way that you can say that, poof,  
18 \$7 1/2 million disappears in thin air because she  
19 dies, which is what their argument is, Your Honor.

20 MR. ROBERTS: You see, Your Honor, the  
21 argument they made before is that her claim vested  
22 on the day that Dr. Khiabani died and her estate  
23 owned the claim for the 15 million.

24 They couldn't find any legal support for  
25 that. So now Mr. Kemp is just disagreeing with

1 the decision of the legislature to have a loss of  
2 probable support standard instead of a wage loss  
3 standard.

4 His problem is that, because Dr. Barin  
5 died, her loss of probable support goes away.  
6 Well, what if Dr. Barin had no wife and no child  
7 on the day that he died? There would be no loss  
8 of income -- no loss of support claim for anyone.  
9 There would be no loss of income claim for anyone.

10 Our legislature has chosen to do a loss  
11 of probable support. The jury instruction says  
12 it's based on the shorter -- comparing the life  
13 expectancy, everyone agrees it's the shorter life  
14 expectancy.

15 And he just said 50 percent goes to the  
16 wife, 25 percent to each of the boys. That's  
17 intestate succession. It doesn't go to  
18 Dr. Barin's estate to be divided up that way. The  
19 jury has to find the loss of probable support to  
20 each heir.

21 They don't get to get a lump sum and  
22 then divide it up after the trial. The jury has  
23 to divide it up based on affirmative evidence of  
24 what the probable support to each heir would have  
25 been had Dr. Khiabani lived.

009368



1           And, unfortunately, on the day of his  
2 death, she already had a very short life  
3 expectancy, and the reality is she would not have  
4 received loss of support beyond her life  
5 expectancy. And that was true on the very day  
6 that Dr. Khiabani died.

7           It's a sad situation, but we can't  
8 change the statutory scheme.

9           MR. KEMP: We can't change the jury  
10 instruction either, Your Honor, which is what he's  
11 trying to do. The jury instruction actually says  
12 that life expectancy is a factor to be considered.

13           So this is -- this is -- may consider  
14 it. So this is something that the jury should be  
15 deciding what happens to the 15 million, not  
16 Mr. Roberts saying, "Oh, judge, we automatically  
17 got to cut it in half" or they can't do this, they  
18 can't do that.

19           There was \$15 million there after  
20 subtracting his consumption, his personal  
21 expenditure consumption. Both economists agree to  
22 that. Okay. There was no disagreement on that.

23           So we've got a fixed sum of 15 million.  
24 It's for the jury to say where that would have or  
25 should have gone under a probable support

009369

1 analysis. It's not for Mr. Roberts to put an  
2 artificial limit on.

3 MR. ROBERTS: It's for the Court to  
4 instruct the jury that they can't give money to  
5 Dr. Barin after she's dead because that can't be  
6 support.

7 MR. KEMP: Well, what about the six  
8 months before she died, Your Honor?

9 MR. ROBERTS: She's entitled to support  
10 for the six months before she died. We've never  
11 disputed --

12 MR. KEMP: Would it be 15 million?

13 MR. ROBERTS: Well, he would not have  
14 earned the entire 15 million. She would be  
15 entitled to his income less the personal  
16 consumption, less what would be given to the boys.  
17 We're fine with the presumption she would have  
18 gotten everything left over. So 941,000 a year is  
19 what he was making his last year.

20 MR. KEMP: See, Judge, he's trying to  
21 take the 941, cut that down to -- by six months,  
22 and then take that out of the equation and go  
23 forward with the rest of it to get the \$15 million  
24 down to 7 1/2. That's what he's trying to do.

25 I'm not saying he can't argue that to

009370

1 the jury, you know. I wouldn't argue that to the  
2 jury if I was a defense attorney, but he can argue  
3 that. But that is a factor in the jury  
4 instruction, life expectancy.

5 Life expectancy is a factor that they  
6 may consider, not that they shall consider, not  
7 that it's definitive, but it gives them some  
8 discretion.

9 So if they find that the balance of the  
10 probable support would have went to the children  
11 or that it would have went through the mother to  
12 the children, you know, that's the jury's  
13 decision. That's not Mr. Roberts' decision to  
14 artificially impose on the jury.

15 MR. ROBERTS: Your Honor, I'm not Dan  
16 Polsenberg, but I would suspect that, if the jury  
17 awards money to the estate of Katy Barin where it  
18 becomes obvious that she is getting money after  
19 she's dead, the case is going to come back.

20 MR. POLSENBERG: Oh, yeah.

21 MR. KEMP: Come back on a remittitur to  
22 enforce the judgment, yes.

23 MS. WORKS: Your Honor, what the defense  
24 is doing is asking the Court to impose its own  
25 artificial cap, it's own artificial limit on the

009371

1 damages. But, in reality, what the jury  
2 instruction says is that here are the individuals  
3 entitled to loss of probable support, grief,  
4 sorrow, and companionship, and here are the  
5 factors the jury may consider.

6 And within that is the relative health  
7 of the parties, relative life expectancies of the  
8 parties, generosity of the decedent, among a  
9 number of other factors.

10 So what the jury is going to be tasked  
11 with doing is taking all the evidence they heard  
12 about Dr. Khiabani's generosity, that he would  
13 have taken care of his family, from the economist  
14 with respect to what his economic earning capacity  
15 was going to be minus personal consumption, and  
16 the jury takes those factors into account and  
17 makes those considerations.

18 It's not for this Court or the defense  
19 to impose an artificial limit on those damages.

20 MR. ROBERTS: Nothing to add, Your  
21 Honor.

22 MR. KEMP: Nothing to add, Your Honor.  
23 I don't know it has to be decided before the next  
24 witness either.

25 THE COURT: It does not. In fact I have

009372

1 in my notes --

2 MR. ROBERTS: It does not. But if the  
3 Court wants a brief, I need to get that --

4 THE COURT: I actually have in my notes  
5 do not -- what I need to decide, and this one does  
6 not have to be decided at this moment in the  
7 morning.

8 MR. ROBERTS: I only was asking because  
9 I wanted to get someone started on the brief if  
10 the Court felt it needed additional law.

11 THE COURT: I know.

12 MR. ROBERTS: Sorry.

13 THE COURT: It's okay.

14 MR. ROBERTS: Sorry to delay the break.

15 (Whereupon, a recess was taken.)

16 THE MARSHAL: Please remain seated.  
17 Come to order. Department 14 is back in session.

18 THE COURT: I realize a took a few more  
19 minutes, but I have many answers for you.

20 Okay. So let's start off with -- since  
21 Mr. Polsenberg is here, I should let you know what  
22 I've decided on our recent -- with respect to the  
23 division and the record that was just --

24 We're back on the record; right?

25 THE CLERK: Yes, Your Honor.

009373

1           THE COURT: With respect to the argument  
2 of whether Dr. Barin inherited or not and whether  
3 the 7 1/2 million is lost or not, whether it's  
4 intestate or not or -- I'm going to read Nevada  
5 Jury Instruction 10.13. It's Number 30 of the  
6 joint stock jury instructions. And it does  
7 discuss -- this is exactly how I'm going to read  
8 it.

9           It does discuss in Number 2 the health  
10 of the -- in Number 1, the age of the deceased and  
11 of the heir, the health of the deceased and the  
12 heir, and respective life expectancies of the  
13 deceased and the heir, and so forth. So I'm going  
14 to read it just as it is. Okay?

15           So that's the first decision.

16           Number 2, with respect to the clips on  
17 the Lucido issue, there's a distinction in the  
18 case -- in Lucido and the case that we have here,  
19 this case. Okay?

20           Here the witness was testifying to the  
21 loss of support and said that he used the age 22,  
22 which was four years even further than the  
23 plaintiff's witness with respect to loss of  
24 support. And that's what he was testifying to.  
25 It was very narrow.

1           In Lucido, it did not have to do with  
2 loss of support. It had to do with the other  
3 issues that are involved in the wrongful death  
4 statute, such as the loss of companionship and all  
5 of the other issues.

6           And so I don't think that we need to  
7 play that clip because they're not on the same  
8 point. So that's not going to be played.

9           That was the second decision.

10          Now, with respect to whether it's pre --  
11 the rule on the tax, taxation, whether it's net or  
12 gross, I just want to discuss these two cases with  
13 you. I've read -- I've read everything. I've  
14 read the bench briefs, sometimes several times.  
15 Okay. I've always been that way.

16          Anyway, I've read the Supreme Court case  
17 Norfolk & Western Railway Company. This had to do  
18 with the -- I think it was cattle law versus -- so  
19 forth. But this is a wrongful death case. Right?

20          And also in Shaw, it's not binding, but  
21 I still have considered it. I think there's a  
22 distinction here in that in Norfolk, the Supreme  
23 Court case, even though it's '80, it's still good  
24 law, versus -- as opposed to Shaw, it was a  
25 wrongful death case. And so the personal injury

009375

1 award was not lost income. It's loss of support.  
2 It seems to be not taxable here in this case.  
3 That's what they found. Okay.

4 In Shaw, this is not a wrongful death  
5 case. And the taxation issue is lost income,  
6 which is taxable. Okay. I mean, I'm trying to  
7 narrow it down to the -- you know, the simplest  
8 issues.

9 And I know that the majority rule was  
10 for many years to go with gross, but I've also  
11 read many things that are -- that show that it's  
12 changed. But, really, this is not -- I mean, this  
13 is a wrongful death case, and in Norfolk it says  
14 that loss of support is not taxable. That's what  
15 the Supreme Court held.

16 And so that's what I'm going to hold,  
17 which means it's net. It's a net award instead of  
18 a gross award. My understanding is that the heirs  
19 will not be taxed because this is loss of support.

20 Now, if someone wants a jury  
21 instruction -- I'm just saying so that the jury  
22 understands that and -- I don't know. That's up  
23 to you.

24 MR. ROBERTS: That's what I was going to  
25 ask, Your Honor. One of the authorities we cited

009376



1 in our brief says not only is this the rule, but  
2 the jury should be instructed on it.

3 So in light of the Court's ruling, we'll  
4 prepare an instruction.

5 THE COURT: Actually, it does -- I have  
6 here in section -- well, the IRS Section  
7 104(a)(2), 1954, but it looks like it's still --

8 MR. ROBERTS: Is that the Norfolk &  
9 Western case, Your Honor?

10 THE COURT: Yes, it is. The section is  
11 construed to apply to wrongful death awards. They  
12 are not taxable income to the recipient.

13 And it does say that, if you find this,  
14 you should -- they recommend somewhere in here, I  
15 read, giving a jury instruction.

16 MR. ROBERTS: Very good. We'll get one  
17 prepared, Your Honor.

18 MR. KEMP: We don't want to argue about  
19 it, Your Honor.

20 THE COURT: You don't want to argue  
21 about it.

22 MS. WORKS: Actually, I would, though,  
23 actually like to point the Court back to the Otis  
24 Elevator case. I even reread this last night,  
25 Your Honor, and thought of something that I should

009377

1 have said last night, but it was a long evening, I  
2 think, for all of us. And that is to point the  
3 Court specifically to Otis Elevator, which is  
4 Nevada's law regarding whether taxation comes in.  
5 And if the taxation issues come in, that opens up  
6 a whole other can of worms.

7 And if the Court looks specifically,  
8 Otis said you can give the taxation instruction as  
9 a curative device, and I quote, curative device.  
10 What that means, Your Honor, by its very  
11 definition, is that you're curing some defect,  
12 some piece of evidence that the jury should not  
13 have heard but now we have to instruct them in  
14 order to cure that prejudice.

15 So Otis said you can give the  
16 instruction if it's a curative device because the  
17 jury has already heard evidence of taxation, which  
18 implicitly means the jury in Nevada, at least,  
19 shouldn't be hearing any evidence regarding the  
20 taxation in these verdicts.

21 And Otis went on to say the reason for  
22 that is because it confuses the issues, it  
23 unnecessarily complicates matters, and it's more  
24 prejudicial than probative.

25 Both Shaw and Norfolk -- I appreciate

009378

1 the Court is looking at those and analogizing  
2 those, but those both pertain to federal law,  
3 which is the point I was going to last night. And  
4 the majority rule is -- it is still gross, I  
5 believe, Your Honor, and I think that the case law  
6 supports that.

7 But, regardless, the overwhelming  
8 majority and the Ninth Circuit, the Tenth Circuit,  
9 and even cases after Norfolk interpreting that  
10 have said that those are federal law issues and  
11 the state law in these areas prevail, the state  
12 substantive law.

13 And the substantive law in Nevada is  
14 that taxation issues do not come in. And if they  
15 do, as a curative device -- which denotes that  
16 something went awry and now we've got to fix it --  
17 those instructions are only to be given as  
18 curative devices.

19 So what we're asking is that the jury  
20 never hear that information and then no curative  
21 device is necessary.

22 So under Nevada law, which applies even  
23 under Shaw and even under Norfolk, the cases and  
24 their progeny acknowledge that the state law  
25 prevails. And the state law in Nevada is that

1 issues of taxation do not go before the jury.

2 And we think it would be reversible  
3 error because the Court has the opportunity to  
4 prevent any defect that would need to be cured.

5 THE COURT: Understood. So let me be  
6 very candid with you. I'm pretty straightforward.  
7 There's no hiding the ball here.

8 I considered Shaw again in my analysis  
9 last night and Norfolk, but I accidentally omitted  
10 Otis. But I will review it one more time, in  
11 fairness.

12 MS. WORKS: Thank you, Your Honor.

13 MR. KEMP: Otis was the case I brought  
14 up yesterday.

15 THE COURT: I know. There have been a  
16 lot of cases. I took a lot of things home.

17 MR. KEMP: You know, I can't even  
18 believe Mr. Roberts is asking for this  
19 instruction. I've been doing this for 40 years in  
20 this jurisdiction, unfortunately. I've never seen  
21 anyone get an instruction that they should reduce  
22 the doctor's or a wrongful death person's income  
23 by 35 percent. I've never seen it. It's just not  
24 done.

25 But, anyway, I don't want to argue about

009380

1 it, Your Honor. I just wanted to --

2 THE COURT: Well, no. I need to  
3 consider the case that Ms. Works --

4 MR. KEMP: I think you should look at it  
5 and think about it again, Your Honor.

6 THE COURT: I've already reviewed it,  
7 but I didn't review it at the last -- when I was  
8 making the decision, to be fair.

9 MR. KEMP: Yeah, Judge, you may want to  
10 kind of do a quick survey of some of the other  
11 judges here on what they've been doing. I've  
12 never seen anything even close to this being --

13 THE COURT: Well, I'll be honest with  
14 you. I respect my colleagues, but I oftentimes  
15 don't really -- I sort of make -- I don't want to  
16 get myself into a problem here. I honestly sort  
17 of review my own things and interpret my own --

18 MR. KEMP: Yeah, and I'm not suggesting  
19 that that's something should be done, but, I mean,  
20 this is just way out.

21 THE COURT: No, what I've just told you  
22 is I did look at Otis before, just like I looked  
23 at these before, but I didn't review it again when  
24 I was reviewing these. I'm just being honest.  
25 You know? That's what it is.

009381

1           So in light of that, I will review Otis  
2 with these two again, and then I'll have -- we'll  
3 revisit this topic.

4           MS. WORKS: Thank you, Your Honor.

5           THE COURT: It's fair since I didn't  
6 include that in my studies last night.

7           MR. ROBERTS: That's fine, Your Honor.  
8 And we've already argued Otis. I don't need to  
9 argue this further. This isn't something I came  
10 up with. The Court has seen the plethora of  
11 authority that we've cited, and there's nothing  
12 contrary in Nevada law.

13          THE COURT: Right. So do we need  
14 that -- I just want to be sure. I'm not sure  
15 who's on next, but is that something that needs to  
16 happen before this next witness?

17          MR. ROBERTS: No, Your Honor. No. The  
18 next witness is a biomechanic.

19          THE COURT: Oh, good. At this point,  
20 that's a nice change. Okay. I'm thrilled.

21          All right. So after this witness, we're  
22 going to send the jury to lunch.

23          MR. ROBERTS: We probably are going to  
24 go to lunch before the witness is gone. My guess  
25 is that maybe we should break at 1 o'clock.

1 THE MARSHAL: Lunch is here now.

2 THE COURT: Oh, lunch is here?

3 MR. ROBERTS: Or now.

4 THE MARSHAL: However you want to do it.

5 THE COURT: I'm very flexible.

6 MR. KEMP: I'd like to see us get going  
7 a little bit here.

8 MR. ROBERTS: Lunch is here for the  
9 jury?

10 THE COURT: Yes, but it's only 20 of  
11 12:00.

12 MR. BARGER: Let me make a suggestion,  
13 if I can. Let me get started with the witness,  
14 get through his credentials. And if it's a good  
15 stopping point, I'll ask the Court.

16 THE COURT: Okay. I'm flexible. I  
17 wouldn't mind continuing so that we can absolutely  
18 have closing arguments tomorrow.

19 MR. BARGER: Oh, I don't think we're  
20 going to have a problem with finishing.

21 THE COURT: Well, no, I just want to  
22 ensure.

23 MR. BARGER: Right. I would like to get  
24 through at least his qualifications.

25 THE COURT: Let's bring them in.

009383

1 MR. BARGER: Well, before you do that --

2 THE COURT: Oh, okay. Wait just a  
3 second.

4 MR. BARGER: Mr. Pepperman and I have  
5 gone over it. And what we'd like to do is --  
6 there's a bunch of exhibits. We've made  
7 agreements. I'd like to read into the record --  
8 there's only one that we need to argue, and we can  
9 argue that after lunch.

10 THE COURT: Are they premarked?

11 MR. BARGER: They're done. They're  
12 premarked, they're numbered. All I've got to do  
13 is read them into the record.

14 THE COURT: Okay. Very good. Go ahead.

15 MR. BARGER: Can I do it in front of the  
16 jury, or you want us to do it now?

17 THE COURT: Why don't we just do it  
18 right now?

19 MR. BARGER: Eric, you want to follow me  
20 just to make sure?

21 Judge, Defense Exhibit 592 is only being  
22 offered as a demonstrative. Defense Number 593A  
23 is only a demonstrative. 593B is being offered --  
24 and these are all stipulated to, I believe. I'm  
25 going to read the following exhibit numbers --



1 THE COURT: Is B demonstrative or --

2 MR. BARGER: No, B is an actual  
3 go-to-the-jury exhibit.

4 THE COURT: Okay. Very good.

5 MR. BARGER: So now I'm going to read  
6 the numbers: 594, 595, 596, 597, 598, 599, 600,  
7 601, 602, 603, 604, 605, 605A, 605B, 606, 607,  
8 608, 609, 609A, 610, 611, 611A, 612, 612A, 613.

9 614 is -- and it has an A and a B. And  
10 that's the helmet. A is the box; B is --

11 THE COURT: Is what?

12 THE CLERK: B should be the helmet. A  
13 is the box.

14 THE COURT: A is the box and B is the  
15 helmet.

16 MR. BARGER: Okay.

17 Can I have a pen?

18 For the record, 614A is the box.

19 THE CLERK: Well, no, you can leave it  
20 like that, Mr. Barger. You can just leave the box  
21 as 614, and we'll make the helmet 614A.

22 MR. BARGER: Okay. 615. 616 is only  
23 for demonstrative. 617 is the helmet. And I need  
24 help with -- is that an A and B again?

25 THE CLERK: No, 617 is the box. 617A is

009385

1 the helmet.

2 MR. BARGER: Okay.

3 618, 619, 620, 620A, 621, 621A, 622,  
4 622A, 623, 624, 625, 626, 627, 628, 629, 630,  
5 630A, 631, 632, 633, 634, 635, 6 -- excuse me.  
6 I'm sorry. I want to stop at 633.

7 THE CLERK: 635?

8 MR. BARGER: No, I'm going to go back,  
9 633. All those that I read off are not objected  
10 to, but Mr. Pepperman can make that statement.

11 634 and 635, Your Honor -- and we  
12 probably need -- they are objected to, and we need  
13 to have a discussion with the Court, but it  
14 doesn't have to be before lunch.

15 THE COURT: All right. Very good.

16 MR. BARGER: Eric, is that correct?

17 MR. PEPPERMAN: Close.

18 MR. BARGER: What did I miss?

19 MR. PEPPERMAN: There was a couple  
20 missing from the stack that I reviewed.

21 So 632 and 633, I would object to for  
22 the same reasons as 634 and 635.

23 MR. BARGER: Okay. That's the same  
24 subject?

25 MR. PEPPERMAN: Yeah, the sled tests.

009386

1 MR. BARGER: Your Honor, I would revise  
2 that. All the way through 631 is accurate. Now  
3 632, 633, 634, and 635 would be objected to.

4 THE COURT: All right. Very good.

5 MR. PEPPERMAN: And 614A and 614B and  
6 617A and 617B, those are, I guess, the boxes and  
7 exemplar helmets. I wasn't aware -- that wasn't  
8 in this stack. I didn't know those were going to  
9 be introduced, and I would object to those as  
10 well.

11 THE COURT: So 14 and then 14A, and  
12 16 -- excuse me -- and 17.

13 MR. PEPPERMAN: 617A and 617B.

14 MR. BARGER: Those are just brand new,  
15 the same helmet.

16 THE COURT: 17 is the box, and 17A is  
17 the helmet?

18 THE CLERK: Right. Correct.

19 THE COURT: So you're objecting to  
20 those, Mr. Pepperman? Is that correct?

21 MR. KEMP: I object to the same ones,  
22 Your Honor. They should have been on the exhibit  
23 list. Okay? He can show them. We're not saying  
24 he can't show with them and play with them, but  
25 they can't go back to --

009387

1 THE COURT: Okay. I just want to make  
2 sure I have the -- I understand which ones --

3 MR. BARGER: I'll solve it.

4 THE COURT: All right.

5 MR. BARGER: I'll make 616 -- excuse  
6 me -- 614 and 617, the box and the helmets,  
7 demonstrative only. We'll just use it that way.

8 MR. PEPPERMAN: That was A and B on  
9 both; right?

10 MR. BARGER: Yeah.

11 THE COURT: Yeah.

12 THE CLERK: So 614 and 614A are going to  
13 be demonstrative only?

14 MR. BARGER: Yes, ma'am. That's  
15 correct.

16 THE COURT: And 17 as well?

17 MR. BARGER: 617A and B are  
18 demonstrative only.

19 THE CLERK: Are demonstrative only?  
20 Okay.

21 MR. BARGER: So the only ones we have to  
22 argue later is 632, 33, 34, and 35.

23 THE COURT: Very good.

24 MR. PEPPERMAN: That is correct, Your  
25 Honor. I will stipulate to the rest as stated by

009388

1 Mr. Barger.

2 MR. BARGER: So they're admitted?

3 THE COURT: They're admitted, yes,  
4 pursuant to the record that you just made, both  
5 parties.

6 (Whereupon, Exhibits 594-613 and  
7 618-631 were admitted into evidence.)

8 THE COURT: All right. Let's bring the  
9 jury in. Are we ready for the jury?

10 MR. PEPPERMAN: Yes, Your Honor.

11 (The following proceedings were held  
12 in the presence of the jury.)

13 THE MARSHAL: All rise.

14 All the jurors are present, Your Honor.

15 Please be seated. Come to order.

16 THE COURT: All right. Do the parties  
17 stipulate to the presence of the jury?

18 MR. BARGER: Yes, Your Honor.

19 MR. PEPPERMAN: Yes, Your Honor.

20 THE COURT: Okay. Thank you.

21 Mr. Barger, your witness.

22 MR. BARGER: Yes, Your Honor.

23 We call Dr. Michael Carhart, please.

24 THE MARSHAL: Just remain standing, sir.

25 Raise your right hand and face the clerk.

009389

1 THE CLERK: You do solemnly swear that  
2 the testimony you're about to give in this action  
3 shall be the truth, the whole truth, and nothing  
4 but the truth, so help you God?

5 THE WITNESS: I do.

6 THE CLERK: Thank you. Please be  
7 seated. State and spell your name for the record.

8 THE WITNESS: My name is Michael Reid  
9 Carhart; M-i-c-h-a-e-l, R-e-i-d, C-a-r-h-a-r-t.

10 MR. BARGER: May I proceed?

11 THE COURT: Yes, please proceed.  
12

13 DIRECT EXAMINATION OF MICHAEL CARHART, Ph.D.

14 BY MR. BARGER:

15 Q. Dr. Carhart, please tell the ladies and  
16 gentlemen of the jury your name.

17 A. Sure. It's Michael Carhart.

18 Good morning.

19 Q. What is your profession?

20 A. I'm a consulting biomechanical engineer.

21 Q. And we'll talk about that in a minute.

22 Are you equivalent to Dr. Richard Stalnaker with  
23 respect to your role in this case?

24 A. We do similar types of work, yeah,  
25 analysis of injuries and human movement, yes.

009390

1 Q. Where are you employed and what is your  
2 position with that employer?

3 A. So I work for a firm called Exponent. I  
4 work out of the Phoenix office of Exponent.

5 Q. Where do you actually live?

6 A. I live outside of Reno.

7 Q. In Nevada?

8 A. I do live in Nevada.

9 Q. What are your specialties in your  
10 profession?

11 A. Biomechanical analysis of incidents. I  
12 do a lot of work analyzing individual crash  
13 events, fall events, to look at how people move,  
14 how they experience different types of loads or  
15 accelerations, and how those loads or  
16 accelerations relate to various types of injury or  
17 injury potential. Very often, it's puzzling  
18 together how a particular pattern of injury  
19 happened in a particular crash environment.

20 Q. Okay. And I'm going to go to your  
21 educational background in a moment, but I do want  
22 to ask you some other questions first.

23 You were asked to do what in this case?

24 A. To perform a biomechanical analysis of  
25 what occurred with Dr. Khiabani and his bicycle,

009391

1 how he moved, how he sustained his injuries. I  
2 spent a lot of time focusing on how his helmeted  
3 head interacted with the bus and how he sustained  
4 his head injuries.

5 I also looked at the issue of how  
6 Dr. Khiabani got to the point of impact. And that  
7 point of impact was 6 feet into the bus lane, so I  
8 looked at a couple different scenarios and  
9 theories with respect to how he got there, as well  
10 as I evaluated, you know, basically, the  
11 kinematics of a cyclist under those conditions.

12 I also looked at the S-1 Gard. I  
13 evaluated whether it would have made any  
14 difference in this event. And I also looked at  
15 the hazards or some hazards associated with the  
16 S-1 Gard.

17 Q. Okay. Have you done this type of  
18 analysis before in your career?

19 A. I've done thousands of individual case  
20 analyses, yes.

21 Q. And explain to the jury what kind of  
22 experience you have in doing these types of  
23 analysis in different types of cases without being  
24 in great detail.

25 A. Sure. I'm frequently called upon to

009392



1 investigate a particular type of event where  
2 somebody sustained serious injury. I analyze the  
3 mechanics of the event, maybe with the assistance  
4 of an accident reconstruction, figure out what the  
5 vehicle motions might be. I analyze how that  
6 relates to how the individual might move inside  
7 the vehicle, if it's a car crash, or how, in a  
8 bicycle incident like this, how the bicyclist  
9 moved. And then relate the physical evidence and  
10 their injury pattern to the types of loads and  
11 injuries that they sustained in the event.

12 Q. Have you worked in your career involving  
13 litigation involving things that happen -- helping  
14 assist the jury for cities and states and counties  
15 and municipalities?

16 A. Sure. I've done a lot of work for  
17 public entities.

18 Q. And you've done work, I assume, for  
19 manufacturers of vehicles as well?

20 A. I have done work where I was retained by  
21 counsel who represents a manufacturer, sure.

22 Q. Have you done work for attorneys who  
23 represent manufacturers of helmets?

24 A. I have.

25 Q. And have you done work in criminal

009393

1 matters as well?

2 A. I have done a number of criminal cases  
3 in my career.

4 Q. Okay. And have you done work --  
5 obviously, you have done work for lawyers  
6 defending people?

7 A. In criminal cases, I've worked on both  
8 the criminal defendant's side; that is, the  
9 attorney hired me who was representing a  
10 defendant. I've also worked for the prosecutor's  
11 office.

12 Q. And in civil matters?

13 A. The same. I've worked for both  
14 attorneys representing plaintiff and defendant in  
15 my career.

16 Q. Okay. Now, I want to talk to you about  
17 your educational background, if you will. Tell  
18 the ladies and gentlemen of the jury what you've  
19 done in your career --

20 A. Sure.

21 Q. -- and where you went to school.

22 A. So, coming out of high school, I got a  
23 scholarship to go to Milwaukee School of  
24 Engineering. That's in Milwaukee, Wisconsin. I  
25 went there in 1987 and completed a degree in

009394

1 biomechanical engineering. I completed that  
2 degree in 1991.

3           Immediately after completing my  
4 undergraduate degree, I had an opportunity to go  
5 to graduate school as a paid graduate research  
6 assistant. And I ultimately chose to go to  
7 Arizona State University in Tempe, Arizona. I was  
8 admitted directly into the doctoral program. I  
9 pursued a doctoral degree in bioengineering  
10 specializing in biomechanics. I completed that in  
11 2000.

12           Q. After you got your doctorate degree,  
13 what did you do next?

14           A. After my doctorate, I worked at Arizona  
15 State University, first as a research scientist  
16 and then as an adjunct professor. I taught a  
17 number of courses. I supervised graduate  
18 students. I taught course laboratories, things  
19 like biomechanics, biomedical instrumentation,  
20 microcomputer applications in bioengineering,  
21 computer modeling -- computer modeling and  
22 visualization as well.

23           Q. The jury has heard, but I would like for  
24 you to explain in a little bit more detail what a  
25 biomechanical engineer does.

009395

1           A.    Yeah.  So biomechanics is really the  
2 application of mechanics and mechanical  
3 engineering but to the study of the human body.

4                    So, as a biomechanical engineer, I focus  
5 on motion, how the body responds to acceleration  
6 fields, for example, in a crash environment.

7 Basically, it's physics applied to human movement  
8 and then looking at those movements and collision  
9 events that may occur and how that generates  
10 forces on the body, how those forces on the  
11 outside of the body relate to internal forces, how  
12 those internal forces might relate to ligament  
13 injuries, bony injuries, internal organ injuries,  
14 brain injuries, things like that.

15          Q.    In order to get a doctor or Ph.D. in,  
16 like, Arizona, did you have to do what's called a  
17 dissertation?

18          A.    I did do a dissertation.

19          Q.    What was your dissertation studies on?

20          A.    So I was interested in helping people  
21 who are paralyzed regain their ability to walk and  
22 stand.  And so that's been somewhat possible for a  
23 long time.  You can take electrical current and  
24 pass it through paralyzed muscles and get those  
25 paralyzed muscles to contract.  But it's very

1 difficult.

2 Our control of standing and walking is  
3 really elegant. And if you try to do that from an  
4 engineering standpoint and harness those muscles  
5 using electrical current, it's really difficult.

6 I was looking at the issue of whether  
7 you could get paraplegics standing and doing a  
8 functional task. When you and I do a functional  
9 task, for example, lifting up this water bottle at  
10 an arm's length, we actually compensate for doing  
11 that. Otherwise, you would simply just fall over.

12 And so when we're looking at doing this  
13 in paraplegics, I wanted to see if they could take  
14 compensatory steps if they got knocked off  
15 balance, if we could use engineering methods to  
16 keep them standing if somebody bumped them, for  
17 example. Because, in that population, if they  
18 fall, it can be catastrophic.

19 Q. And were you able to achieve some  
20 success with that work?

21 A. Well, I -- so it was really  
22 modeling-focused as part of my dissertation.  
23 And then immediately after, I worked with two  
24 patients where we implanted spinal cord  
25 stimulators on their spinal cord. And we worked

009397

1 with them in something called partial  
2 weightbearing therapy, where we trained them on a  
3 treadmill for months. And, ultimately, we were  
4 able to get those individuals to walk and walk  
5 some pretty good distances.

6 Q. In the biomechanical engineering and  
7 biomechanical field, and you find findings, why is  
8 it important to make findings and conclusions?

9 A. Why is it important?

10 Q. Yes.

11 A. Contribute to science, contribute to the  
12 state of knowledge, move things along. You know,  
13 usually one set of research stands atop another.  
14 And as research programs build, we make progress  
15 in what we can do and how we can address different  
16 issues.

17 Q. And your experience in the past with  
18 respect to design of automotive or helmet issues,  
19 crash test dummies, can you briefly go over that  
20 for us?

21 A. Sure. I have lots of experience  
22 performing crash tests, side impacts, rear  
23 impacts, frontal impacts. I've done a tremendous  
24 amount of work in rollover and how occupants move  
25 and get injuries in a rollover environment, how

009398

1 they interact with restraints, seat belts,  
2 airbags, air curtains. And I've done a lot of  
3 that sort of testing as part of my work at  
4 Exponent.

5 Q. All right. Even though you have a Ph.D.  
6 and are called "doctor," you're not a medical  
7 doctor; correct?

8 A. I am not a medical doctor. I don't  
9 treat patients. I don't diagnose them.

10 I use the findings from medical  
11 providers as my means to understand what the  
12 injuries are. I might supplement that also with  
13 imaging studies so I can see what the injuries are  
14 myself, for example, x-rays to look at the angle  
15 of a bone break or the nature of a particular  
16 fracture.

17 Q. I want to talk about how you're  
18 currently employed at Exponent. You said you work  
19 in Phoenix?

20 A. I do work in Phoenix.

21 Q. And do you -- you live in Reno?

22 A. I live in Reno. I spend most of my  
23 career on the road. More days than not, I'm  
24 traveling for various projects.

25 Q. Okay. What is your title at Exponent?

009399

1 A. So I'm a principal, and then I'm also  
2 the director of the biomechanics practice.

3 Q. How many people are under your direction  
4 with respect to the biomechanics practice?

5 A. There's 38 in the group, so 37 would be  
6 sort of under me in terms of being the director.

7 Q. What types of people work with you to  
8 reach conclusions in biomechanical equations?

9 A. Our group includes three nurses. We do  
10 a lot of work essentially reviewing medical  
11 records and summarizing them, consolidating them,  
12 distilling them down. We also have two  
13 physicians: a board-certified radiologist as  
14 well as a board-certified forensic pathologist.

15 And then the remainder of the group  
16 would be engineers and scientists with backgrounds  
17 similar to myself.

18 Q. Okay. Dr. Krauss testified in front of  
19 the jury this week. He also is employed by  
20 Exponent; is that correct?

21 A. He is. He works in our human factors  
22 group.

23 Q. Okay. That's different from your group?

24 A. It is.

25 Q. Briefly tell us about Exponent, the type

009400



1 of company it is and what you fellows and ladies  
2 do.

3 A. It's a very large scientific and  
4 engineering consulting firm. We have a thousand  
5 employees. We have 20 offices in the U.S. We  
6 have six overseas.

7 We employ more than 450 people who have  
8 doctorates in either science, engineering, or  
9 medicine. We have about 90 different technical  
10 disciplines that we cover, engineering  
11 disciplines. You know, for example, mechanical,  
12 electrical engineering, industrial engineering,  
13 construction engineering, buildings and  
14 structures, all the way to things like  
15 epidemiology and toxicology. Very broad range of  
16 expertise within the firm.

17 Q. You keep yourself in the biomechanical  
18 section?

19 A. I focus on issues around biomechanics  
20 and in reconstruction of injuries.

21 Q. Can we turn on the -- I ask the TV to be  
22 turned on.

23 Now, this would be, for the record,  
24 Exhibit 592 and it's a photograph for  
25 demonstrative purposes only.

009401

1 Can you describe what we're seeing in  
2 the photograph.

3 A. This is a portion of our Phoenix  
4 facility. It is surrounded on the outside by a  
5 two-mile oval track. And then coming off that  
6 two-mile oval track over here on the -- can I use  
7 the --

8 Q. The pointer doesn't work on that. We  
9 have to give you a --

10 MR. BARGER: May I request permission --  
11 a laser won't work on this TV, so you have to use  
12 this Harry Potter thing.

13 THE MARSHAL: Grab the mic, sir.

14 THE WITNESS: Is it already on?

15 All right. So this is a big facility.  
16 It's 150 acres or thereabouts. It's surrounded by  
17 this two-mile oval track, and it's off the photo  
18 over here. But some work that we did in this case  
19 was done over on this 10-acre skid pad. So we can  
20 come off the track at speed if we want to and then  
21 go into steering maneuvers on a skid pad and look  
22 at handling and stability or control vehicle speed  
23 and have a big space to do that.

24 I like this facility. I went to work  
25 there because of the capabilities. We have an

009402

1 indoor sled test facility. That's where you can  
2 take a vehicle down to the occupant compartment,  
3 cut the rest of it away. You can run repeated  
4 tests. You can run frontal impacts, side impacts  
5 with crash test dummies. Measure what happens,  
6 measure impact potential.

7 The facility also has a crash rail over  
8 here. And we didn't use -- there's a couple  
9 Corbett engines down here, the cableway, and we  
10 can run two engines together in just any manner  
11 you can think of at different speeds, different  
12 alignments to create a particular crash.

13 We also have various types of additional  
14 testing capabilities. In our hydraulic facility  
15 over here, we also have helmet rail drops so that  
16 I can conduct tests on helmets and compare, for  
17 example, helmeted to unhelmeted in a 5-foot drop  
18 on the dirt or on the asphalt and look at what a  
19 helmet can do to protect in that sort of  
20 situation.

21 So that's kind of some highlights.

22 BY MR. BARGER:

23 Q. Where is it you primarily work?

24 A. I've got an office over here in this  
25 corner.

009403

1 Q. Okay. And then you said the indoor sled  
2 facility. Was that used in this particular case?

3 A. I did not use the indoor sled test  
4 facility. I used the outdoor sled test facility  
5 in this case. And that is not highlighted here  
6 with my drop-down, but it's right over in this  
7 region, next to this little --

8 Q. Just to the right. It is kind of  
9 highlighted a little bit.

10 A. Oh, there it is. I'm sorry. Yeah, it  
11 is highlighted. This is the drop tower that  
12 propels it. Basically put weights on it and it  
13 will propel the sled. And we did use that  
14 facility to do some testing in this case.

15 Q. All right. You mentioned testing. What  
16 experience do you have in testing, crash testing,  
17 crash dummy testing, and analysis of testing  
18 throughout your career?

19 A. Sure. It's a big part of what I do.  
20 I've run hundreds of tests to look at injury  
21 potential and movement using crash test dummies.  
22 We do that in high-force environments where you  
23 couldn't put a human volunteer in that situation  
24 because there would be a risk or too high of a  
25 risk in terms of injury potential.

009404

1           And so we have a family of crash test  
2 dummies. We can put instruments in them, measure  
3 head accelerations, measure neck loads, and use  
4 those measurements to assess injury potential for  
5 a human in a similar event.

6           Q. Have you actually conducted tests -- or  
7 what's called instrumented with respect to  
8 evaluating head injuries both helmeted and  
9 unhelmeted?

10          A. On numerous occasions, I've put  
11 accelerometers into the Hybrid III head form to  
12 look at head injury potential, both in helmeted to  
13 unhelmeted comparisons as well as just looking at  
14 injury potential in sort of general insults to the  
15 head.

16          Q. Just one last area. You have published  
17 peer-reviewed articles?

18          A. A number of them, yes.

19          Q. And the jury has already heard what  
20 peer-reviewed means. But, in less than 30  
21 seconds, tell us again what that means.

22          A. Well, it means you put together your  
23 work and you submit it to your peers. And they  
24 get to comment on it, critique it, perhaps suggest  
25 you do some things differently. Ultimately, as

009405

1 part of the peer review process, you have to  
2 satisfy those reviewers, either address their  
3 concerns or argue with them on paper and  
4 demonstrate that your position is correct before  
5 it will get published.

6 Q. Have you published papers on helmets and  
7 head injury potentials?

8 A. I have. I've published three  
9 peer-reviewed articles looking at head injury  
10 potential with and without helmets.

11 Q. Okay. Now, I want to ask you a  
12 question, and I want you to -- have you received  
13 special awards with respect to head injury  
14 research?

15 A. Yes.

16 Q. Okay. Can you tell us briefly about  
17 that.

18 A. Yeah. We were interested in a  
19 particular type of snowboarding fall, called a  
20 back-edge catch, if anybody is a snowboarder. If  
21 your heel side of your board catches, you tend to  
22 get catapulted on the back of your head. Field  
23 data has shown that that's a problem. It can  
24 create brain bleeds and pretty severe injuries.

25 So we, in our Phoenix facility, we set

009406

1 up to evaluate the back-edge catch. Put a crash  
2 test dummy on a snowboard and snow boots --  
3 snowboarding boots, brought in several tons of  
4 snow. We created a cableway so that we could  
5 generate those fall kinematics and look at the  
6 role of a helmet in protecting that individual or  
7 the dummy under those fall conditions.

8 MR. BARGER: Your Honor, at this time I  
9 would tender Dr. Carhart as an expert in the  
10 biomechanic field.

11 MR. PEPPERMAN: No objection to his  
12 qualifications, Your Honor.

13 BY MR. BARGER:

14 Q. Now, let's turn, if we can -- and our  
15 goal here is to go for a little while until the  
16 judge tells us to go to lunch.

17 A. Okay.

18 Q. So we're going to talk a little bit  
19 about what you were asked to do in the case and  
20 what you did first. Okay?

21 A. Sure.

22 Q. What -- is there a -- we have a slide, I  
23 believe, the next slide.

24 MR. BARGER: Your Honor, this is 593A,  
25 which is being offered -- which was accepted only

1 as a demonstrative exhibit.

2 It's kind of hard to -- at least it's  
3 hard for me to read. Can you blow that up just a  
4 little bit, Brian. And if not, that's fine.

5 BY MR. BARGER:

6 Q. Okay. So when you are asked to look at  
7 a case -- what did you do in this particular case?  
8 Okay?

9 A. You start by looking at the materials.  
10 And in this case, we had some Metro records. We  
11 had photographs. We had autopsies records. We  
12 had fire and ambulance records.

13 So we start by looking at the available  
14 information. And sometimes it comes in a flood.  
15 Sometimes it comes in bits and pieces. Also look  
16 at the discovery and legal documents to understand  
17 what's being asserted or collect some additional  
18 facts that might be in interrogatories.

19 So just gathering information and  
20 reviewing it to understand what -- what some  
21 details are, some facts, or some allegations with  
22 respect to the particular incident.

23 Q. All right. Now, in addition to  
24 reviewing materials, did you attend inspections?

25 A. Yeah, I did a number of inspections in

009408



1 this case.

2 Q. Tell the jury what inspections that you  
3 actually did to foster your opinions in this case.

4 A. So I went to the site. I went to the  
5 intersection where this incident occurred. I  
6 inspected the subject motor coach. I measured it.  
7 I scanned it with a laser scanner. That's a  
8 scanner that basically puts out a laser and  
9 measures the distance, and you can take multiple  
10 scans and create a 3-D model of the bus. I did  
11 that as part of my work in this case.

12 I also looked for physical evidence on  
13 the bus related to this incident and found some,  
14 in fact.

15 I looked at the bicycle. I looked at it  
16 for physical evidence related to the incident. I  
17 also looked at the helmet, photographed it,  
18 analyzed it, ultimately did some additional work  
19 with the helmet. And I also looked at the shoes  
20 that Dr. Khiabani was wearing.

21 Q. Now, the jury has seen many photographs  
22 of all you experts out there looking at things.  
23 Okay? Is that what we're talking about you did of  
24 the actual coach?

25 A. That's part of it, yes. Yep.

009409

1 Q. In addition to looking at the -- you  
2 went to the site; right?

3 A. I did go to the intersection, yes.

4 Q. In addition to that, you obviously  
5 looked at the actual motor coach involved in the  
6 accident with all the experts?

7 A. I did. Not just looked at it, scanned  
8 it, made measurements, put the bicycle up next to  
9 it so I could understand the interaction.

10 Q. Now, the next category it says there, it  
11 says "exemplar inspections."

12 What does that mean?

13 A. That's looking at the same make and  
14 model to gather more information and do additional  
15 work. So we obtained and I examined and tested  
16 with a motor coach that's the same make and model.

17 Q. As the J4500?

18 A. J4500 that was involved in this  
19 incident. So I looked at and utilized one of  
20 those in some testing. I also had the opportunity  
21 to have my hands on an exemplar bicycle.

22 Q. And what does that mean?

23 A. It's the same make and model as the  
24 Scott Solace that Dr. Khiabani was riding. I  
25 examined it. I rode it. I did some testing with

009410

1 it.

2 Q. Exemplar helmet?

3 A. Yeah, one of the things that I wanted to  
4 do in this case was to look at the shape of the  
5 undeformed helmet that Dr. Khiabani was wearing.  
6 So I obtained several exemplar helmets that are  
7 same make and model, Giro Trinity UA, same  
8 configuration as part of my analysis in this case.

9 Q. And you looked at the S-1 Gard?

10 A. I obtained several, examined them,  
11 scanned them, used them in my analysis, and also  
12 did some testing with them.

13 Q. Let's go to the next category, laser and  
14 CT scanning.

15 Explain that for us, if you will.

16 A. Yeah. Part of the work that I did in  
17 this case was to digitize the helmet, the exemplar  
18 helmet, the bus, the tires, the S-1 Gard so that I  
19 could look at all these pieces together to  
20 determine what occurred in this case.

21 Q. I'm kind of an old-school lawyer.  
22 Digitized. What are we talking about?

23 A. Scan it. So you use a laser scanner.  
24 You can get the three-dimensional profile, for  
25 example, of the bus or the S-1 Gard.

009411

1           So we had a handheld scanner that we  
2 scanned the S-1 Gard with, because it's kind of a  
3 small object. That's a pattern light scanner.  
4 You can basically run that over the top. There's  
5 commercially available software that it will give  
6 you that three-dimensional profile of the guard.

7           Q.    So you're not taking a ruler and just  
8 measuring it.

9           A.    No.

10          Q.    You're doing it scientifically with a  
11 computer?

12          A.    Using a precise measurement to take  
13 some -- you know, in this case, for example, the  
14 S-1 Gard, use the device to create a  
15 three-dimensional map of what its surface features  
16 are, what its geometry is. Instead of a ruler,  
17 it's a full three-dimensional picture.

18          Q.    Is that an acceptable practice and  
19 principle in your profession?

20          A.    Done very frequently in the analysis and  
21 investigation of individual crash events.

22          Q.    So let's go to the next. It says  
23 "Helmet damage characterization."

24                What does that mean?

25          A.    Yes. So I wanted to assess the damage

009412

1 pattern on Dr. Khiabani's helmet, first of all as  
2 it is, but then also relative to what that helmet  
3 looked like before it got deformed so heavily. If  
4 you've seen it, you can see that it's kind of  
5 twisted and folded and pretty deformed.

6 So I used CT, like what you would get  
7 perhaps if someone thought you had a serious head  
8 injury. You go to the hospital. They'd run a CT  
9 scan, which is an x-ray technology.

10 I used a CT scanner to create not just a  
11 3-D surface model, but a density model so I can  
12 look at the inner liner, for example, in the  
13 exemplar helmet. I can look at the liner in the  
14 subject helmet and see what their dimensions are.

15 Q. What does damage pattern mapping mean?

16 A. Ultimately, as part of my work, I looked  
17 at the damage pattern on Dr. Khiabani's helmet,  
18 and I also used the exemplar to identify where the  
19 helmet is damaged, how that relates to the  
20 geometry of the bus, and ultimately how  
21 Dr. Khiabani's helmeted head interacted with the  
22 bus such that he got his injuries.

23 Q. What is exemplar helmet? What exactly  
24 does that mean?

25 A. It's same make and model, same geometry,

009413

1 but it's not deformed.

2 Q. And you just bought that from the  
3 manufacturer?

4 A. We ordered a bunch of them. Some of  
5 them were old stock and new stock. We basically  
6 got an exact match by having to order some extra  
7 ones.

8 Q. Exact match to the helmet that  
9 Dr. Khiabani was wearing?

10 A. Except that it's new and it's not  
11 deformed.

12 Q. Okay. Now, let's go to the next  
13 category. You said testing. Tell us what you  
14 did -- what tests -- did you actually do hands-on  
15 testing?

16 A. I did.

17 Q. What did you do and where did you do it?

18 A. We did extensive amount of work at our  
19 Phoenix facility, the one that I started off  
20 telling you about.

21 Q. Okay. And what did you do? What type  
22 of tests did you run?

23 A. Well, we did some bicycle evaluations,  
24 that is both myself and a surrogate riding the  
25 exemplar bicycle.

1 Q. What does a surrogate mean?

2 A. Surrogate is somebody the same height  
3 and weight as Dr. Khiabani. I'm close, but I'm  
4 taller and I'm a little bit heavier.

5 Q. Okay. So I want you to assume there's  
6 been some criticism by the experts on behalf of  
7 Dr. Khiabani that using a surrogate is improper.

8 Why would you use a surrogate and why  
9 would it be proper?

10 A. It is appropriate and it's commonly done  
11 to have somebody the same height and weight as the  
12 individual to, for example, stand in for geometric  
13 evaluations; but in this case if we want to look  
14 at rider behavior, find someone the same height  
15 and weight, put them on the exemplar bicycle,  
16 expose them to the alleged disturbance provided by  
17 a passing MCI bus, and see what happens, measure  
18 what happens, look at it, cover it with video.

19 Q. In the real world?

20 A. In the real world. Do the test.  
21 Evaluate the theory.

22 Q. "Evaluation of bicycle and cyclist  
23 kinematics when subjected to lateral disturbances  
24 including wind gust and model rocket engine  
25 ignition."

1           That's a long sentence. What does that  
2 mean?

3           A. I also exposed myself and a surrogate  
4 rider to lateral wind disturbance; that is, had  
5 them, myself and the surrogate, ride the bicycle  
6 in front of a crosswind, controlled crosswind, to  
7 look at the effects, see what happened in terms of  
8 the rider behavior, see if the bicycle tilted at  
9 all, look at the path of the bicycle, measure  
10 accelerations on the chest, see if there's an  
11 effect.

12           I also did that using a model rocket  
13 engine because I wanted to create a situation  
14 where both myself and the surrogate rider wouldn't  
15 know when the disturbance was going to be applied.  
16 And so I had a random timer, rode a bicycle along  
17 a straight line and then, randomly, the rocket  
18 engine fired so I couldn't expect when and where  
19 it was going to go off, nor could my surrogate, to  
20 look at what happened.

21           Q. Finally, it says "Evaluation is of  
22 S-1 Gard hazards."

23           Did you do that?

24           A. Yes.

25           Q. And how did you do that with the

009416



1 testing?

2 A. Both through some physical testing in  
3 our outdoor sled test facility by running tests to  
4 an instrumented dummy using an exemplar S-1 Gard,  
5 and then also looking at the geometry of the  
6 S-1 Gard as it's supposed to be installed per the  
7 manufacturer's instruction and evaluating some of  
8 the additional hazards that are present there.

9 Q. Okay. And is there another section to  
10 what you have done under 593?

11 A. I think there is.

12 Q. An analysis?

13 A. Putting it all together, the analysis.

14 Q. What does that mean?

15 A. Well, taking all these pieces and  
16 ultimately coming to my conclusions.

17 Q. Okay. And I want to first discuss, just  
18 individually, bullet point your conclusions, and  
19 then we'll go back in your testimony and address  
20 all of the reasons you came to those conclusions.

21 A. Okay.

22 Q. First I want you to -- if we have a  
23 slide, I believe -- your conclusions, are they  
24 based upon reasonable engineering and  
25 biomechanical probability?

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1 A. Reasonable biomechanical engineering and  
2 scientific certainty, that's right.

3 Q. Okay. So these are your opinions.

4 MR. BARGER: And this, Your Honor, is  
5 Exhibit 593B, which is actually admitted into  
6 evidence.

7 BY MR. BARGER:

8 Q. So what I want to do is I don't want you  
9 to explain, but I want you to basically list for  
10 us your opinions that you've reached in this case  
11 based upon the reasonable biomechanical  
12 engineering and scientific probability.

13 A. Okay. The first one is that the  
14 leftward movement of the bicycle to the point of  
15 contact with the motor coach was not caused by a  
16 hypothetical air blast or suction effect.

17 Q. Your second opinion?

18 A. The leftward movement of the bicycle to  
19 the point of contact with the motor coach was  
20 caused by a left-turn maneuver.

21 Q. Your third opinion?

22 A. Dr. Khiabani sustained his injurious  
23 head contact as a result of interaction between  
24 the sidewall of the right rear drive tire and his  
25 head while his helmet was constrained by

1 interaction with the ground and the tire tread.  
2 His head was not overrun by the tread of the motor  
3 coach tire as opined by Dr. Stalnaker.

4 Q. So you have a difference of opinion with  
5 Dr. Stalnaker based upon your testimony?

6 A. Decidedly.

7 Q. Okay. There's a next -- okay. What is  
8 opinion No. 4?

9 A. That an S-1 Gard, properly mounted and  
10 maintained according to the manufacturer  
11 guidelines, would not have interacted with  
12 Dr. Khiabani's helmeted head during the subject  
13 incident and it would not have prevented the head  
14 loading and the head injuries that he sustained.

15 Q. Your fifth opinion?

16 A. At the time that this motor coach was  
17 designed and manufactured, the efficacy of the  
18 S-1 Gard had not been demonstrated through  
19 scientific testing nor established through field  
20 performance. That is how it performs in the  
21 field. This is still true today.

22 Further, the S-1 Gard poses several  
23 hazards that could result in serious and greater  
24 injury to an individual irrespective of  
25 interaction with a tire.

009419

1 Q. I have a very difficult time pronouncing  
2 the term effi- -- I can't even say it. What does  
3 that mean?

4 A. Whether it works or not in the real  
5 world.

6 Q. Okay. Number 6.

7 A. The absence of an S-1 Gard on the motor  
8 coach, subject motor coach, did not render it  
9 unreasonably dangerous or defective.

10 Q. Are those your opinions in this case?

11 A. They are.

12 MR. BARGER: Your Honor, this is a good  
13 stopping spot.

14 THE COURT: Mr. Barger, I think this is  
15 a good time to stop. All right. And we're going  
16 to take the lunch break now. So I'm going to read  
17 the admonition to the jury. All right.

18 You're instructed not to talk with each  
19 other or with anyone else about any subject or  
20 issue connected with this trial. You're not to  
21 read, watch, or listen to any report of or  
22 commentary on the trial by any person connected  
23 with this case or by any medium of information,  
24 including, without limitation, newspapers,  
25 television, the internet, or radio.

009420

1           You're not to conduct any research on  
2 your own relating to this case, such as consulting  
3 dictionaries, using the internet, or using any  
4 reference materials. You're not to conduct any  
5 investigation, test any theory of the case,  
6 re-create any aspect of the case, or in any other  
7 way investigate or learn about the case on your  
8 own.

9           You're not to talk with others, text  
10 others, tweet others, message others, google  
11 issues, or conduct any other kind of book or  
12 computer research with regard to any issue, party,  
13 witness, or attorney involved in this case.

14           You are not to form or express any  
15 opinion on any subject connected with this trial  
16 until the case is finally submitted to you.

17           We're going to take our lunch recess,  
18 ladies and gentlemen. I expect you to be back  
19 here at 1:40.

20           THE MARSHAL: All rise.

21           (The following proceedings were held  
22 outside the presence of the jury.)

23           THE COURT: I think we should meet a few  
24 minutes before the jury comes back. I tried to  
25 give them a little bit longer time. So I think

009421

1 maybe 20 minutes before, so 1:20.

2 MR. BARGER: For the lawyers?

3 THE COURT: Yes.

4 MR. ROBERTS: Your Honor, I know you're  
5 going to reread the Otis case at lunch.

6 THE COURT: I am. How did you know?

7 MR. ROBERTS: Because you told me and I  
8 was listening.

9 I also reread it during the examination,  
10 and I think that there may be a distinction that I  
11 wasn't really addressing. I think the jury  
12 instruction in Norfolk & Western is that the award  
13 as a whole is not taxable. And Otis says, don't  
14 do that unless it's necessary because taxes come  
15 up and you need to cure it.

16 Well, in this case, tax has come up, but  
17 as I reread it and thought about it, I don't know  
18 if there's anything that we need to cure with  
19 regard to the taxable nature of this entire  
20 verdict or even a portion of the verdict.

21 So, from my standpoint, I think the  
22 instruction that I'm probably going to propose is  
23 simply an instruction that they should deduct  
24 likely taxes from income before they consider the  
25 availability of something for loss of support,

009422

1 something along that way. And I don't know that  
2 it's necessary to instruct them on the nontaxable  
3 nature of their verdict, because that could run a  
4 danger of having them lower their whole verdict on  
5 issues that the tax isn't relevant.

6 I haven't thought it all the way  
7 through, but I just thought I would share that  
8 with the Court.

9 THE COURT: Thank you.

10 MR. KEMP: I don't know where taxes have  
11 come up in this case, Your Honor. We've kept  
12 taxes away from the jury. That's the whole  
13 problem. He wants to bring --

14 THE COURT: I don't remember taxes  
15 coming up yet.

16 MR. ROBERTS: Well, it's my  
17 understanding that unless the Court changes the  
18 ruling, you're going to allow us to play the clip.  
19 And the clip from Dr. Stokes will introduce the  
20 issue of how much tax was paid by Dr. Khiabani in  
21 his last full year.

22 THE COURT: Right.

23 MR. ROBERTS: So, based on this ruling,  
24 the issue of tax is going to come in.

25 THE COURT: Right.

1 MR. ROBERTS: The question is, does that  
2 require a curative instruction such as the one  
3 given in Norfolk & Western, and I'm leaning toward  
4 it doesn't as long as they're properly instructed  
5 that they should consider taxes in determining the  
6 amount available for loss of probable support or  
7 something along that nature.

8 MR. KEMP: Well, Your Honor, I don't  
9 know what ruling he's talking about because I  
10 thought the Court just said they were going to  
11 consider whether they --

12 THE COURT: I was ready to rule and I  
13 was ruling, but now I'm going to review this  
14 again.

15 MR. ROBERTS: Understood. Okay. Thank  
16 you, Your Honor.

17 THE COURT: Okay. Have a nice lunch.

18 MR. ROBERTS: You too. What time are we  
19 back?

20 THE COURT: 1:20, before the jury comes  
21 back.

22 (Whereupon, a luncheon recess was  
23 taken.)

24

25 ///

009424



1 THE COURT: I understand you just had a  
2 message through the marshal. We'll jump in and  
3 continue Dr. Carhart's testimony, and then we can  
4 address the taxation issue. He's just about to  
5 bring the jury in.

6 MR. HENRIOD: So we're not doing jury  
7 instruction?

8 THE COURT: I'm sorry.

9 MR. HENRIOD: That's all right. We'll  
10 come back. We'll come back.

11 MR. KEMP: Judge, this is our -- I told  
12 you yesterday we had revised the verdict form to  
13 incorporate their damages section. So this is the  
14 incorporated one, which I've already given to  
15 Joel.

16 THE COURT: Sorry about that,  
17 Mr. Henriod.

18 MR. HENRIOD: No, that's all right.

19 THE COURT: I actually was researching  
20 all of lunchtime. We're off the record.

21 (Brief recess.)

22 (The following proceedings were held  
23 in the presence of the jury.)

24 THE MARSHAL: All rise.

25 Your Honor, all the jurors are present.

1 THE COURT: Thank you, Marshal.

2 THE MARSHAL: Please be seated. Come to  
3 order.

4 THE COURT: Do the parties stipulate to  
5 the presence of the jury?

6 MR. BARGER: Yes, we do, Your Honor, but  
7 there's one quick thing.

8 MR. KEMP: One little issue, Your Honor.

9 MR. BARGER: Eric stepped out. It's his  
10 witness, so I think we have to wait a minute until  
11 he gets back.

12 (Brief recess.)

13 MR. PEPPERMAN: I apologize, Your Honor.

14 MR. BARGER: You ready?

15 MR. PEPPERMAN: Yes.

16 THE COURT: Mr. Barger, you may proceed.

17 BY MR. BARGER:

18 Q. Good afternoon.

19 So, the last thing we did -- and I'm not  
20 going to go over it again -- was we talked about  
21 your opinions; correct?

22 A. Correct.

23 Q. All right. So I want to start now with  
24 what you did in your biomechanical analysis with  
25 respect to -- let's start with what evidence you

009426

1 saw with respect to the motor coach. Okay?

2 A. Yes.

3 MR. BARGER: Your Honor, for the record,  
4 Exhibit 594 is on the board.

5 BY MR. BARGER:

6 Q. Would you explain to the ladies and  
7 gentlemen of the jury what the purpose of this  
8 exhibit is for.

9 A. Sure. It shows the point of contact  
10 between the bicycle and the motor coach, which is  
11 just behind the right front wheel area. And may  
12 I --

13 Q. Okay. I think we can blow that up.

14 A. Yes. That's a zoom-in on this area  
15 right behind the right front wheel.

16 Q. I think the judge will allow you to go  
17 show that again, if you need to.

18 THE COURT: Certainly.

19 BY MR. BARGER:

20 Q. I will tell you, the jury has seen this  
21 a lot, but if you need to explain --

22 A. No, that's fine. There's a black mark.  
23 It's a transfer. It shows flow on the side of the  
24 bus. If you put a magnifying glass on that, which  
25 I did in my inspection, the direction of that

1 transfer mark is from the back of the bus.

2 Q. All right. Now, with respect to --  
3 there's been several witnesses -- and I think all  
4 you folks agree on that is the witness mark on the  
5 bus; right?

6 A. It is the witness mark on the bus.

7 Q. And it comes from what again on the bus?

8 A. It comes from -- there's a shifter and  
9 brake riser on the front of this bicycle. Here's  
10 a good shot of it. Basically, this is a  
11 dual-lever system. There's brakes there.

12 But underneath the brake levers, you'll  
13 see a little bit of a fin there. You can actually  
14 actuate the shifters there. So that riser, that  
15 black riser, that's shown in the photograph  
16 here -- and you can see a little bit of the scuff  
17 on it -- is what supports those shifter levers and  
18 the brake levers. And there's a mark on the top  
19 ends there, which I think you can see in this  
20 photograph.

21 MR. BARGER: That was Exhibit 595 for  
22 the record.

23 BY MR. BARGER:

24 Q. Do you have an approximate degrees that  
25 that was tipped?

009428

1           A.    Yeah.  As part of my inspection of the  
2 bus, we powered up the bus, powered up the  
3 suspension, brought the vehicle up to ride height.  
4 And I took Dr. Khiabani's bicycle, and I took it  
5 over there and matched up that contact mark on the  
6 shifter riser to the point of contact, the initial  
7 point of contact, which is going to be the  
8 forwardmost portion of that transfer on the bus.

9           MR. BARGER:  Can we have that zoomed out  
10 just a little.  There we go.

11 BY MR. BARGER:

12          Q.    And at what degrees did you think that  
13 was?

14          A.    That's me holding the bike.  I measured  
15 it.  It was about 20 degrees.

16          Q.    Did you actually -- you have a  
17 photograph of the measurement?

18          A.    Yeah, I've got a -- I've got an  
19 inclinometer there against the post for the seat.

20          Q.    And it says "69.2."  Am I reading that  
21 correctly?

22          A.    You are.  And that's the difference from  
23 90, which would be upright.  So the relevant --  
24 the way I would describe this is that it's tilted  
25 20.8 degrees in this measurement.

1 Q. Okay. So if a bicycle is sitting right  
2 upright, it's at 90 degrees?

3 A. It's going to read 90.

4 Q. And if it tilts and it says 69.2, that  
5 is approximately what degrees?

6 A. 20.8 degrees of tilt to the left.

7 Q. Thank you.

8 MR. BARGER: That was Exhibit 596, Your  
9 Honor.

10 BY MR. BARGER:

11 Q. Now, I want to show you the next slide.  
12 I want to ask you some questions about the  
13 injuries that Dr. Khiabani had. And if you would  
14 tell the jury what you see here and how you made  
15 those observations.

16 A. Yeah. If I may stand.

17 THE COURT: Certainly.

18 THE MARSHAL: You want to grab the mic,  
19 sir.

20 BY MR. BARGER:

21 Q. You've got to have the mic.

22 A. These are injuries that are documented  
23 in the autopsy report and they're also shown in  
24 the photographs.

25 I'm going to start at the bottom.

1 Dr. Khiabani had some abrasions, pattern  
2 abrasions -- and I would simply characterize them  
3 as road rash -- on his left lower leg, at the left  
4 knee, and on his left lateral thigh. And the  
5 direction of those abrasions would be consistent  
6 with falling while in a bicycling position  
7 and then scraping along the pavement.

8           In addition to those lower-extremity  
9 abrasions, he had some pretty obvious and  
10 significant abrasions up on his medial bicep,  
11 basically right up in this area on the arm,  
12 consistent with falling, again, in a biking-type  
13 position but landing on the left side of the  
14 thorax and exposing the arm to the roadway,  
15 creating road rash.

16           In addition to those pattern abrasions,  
17 he had some significant rib fractures over here,  
18 left ribs 3 through 9. So he had multiple rib  
19 fractures which were immediately adjacent to some  
20 road rash.

21           In addition to these external injuries  
22 on his body, he had, obviously, very significant  
23 skull fractures, which I think you've heard  
24 something about to this point.

25           A feature that I would point out -- or

009431

1 an injury that I would point out as part of that  
2 head injury pattern is that there was described by  
3 the medical examiner a left temporal scalp  
4 contusion and swelling that extended from the left  
5 side of his head across his forehead. And you can  
6 actually see that pretty plainly in the  
7 photographs.

8 And in addition to that -- so that's the  
9 forehead contusion. The medical providers -- this  
10 is EMS and the AMR ambulance run -- they noted  
11 uncontrolled bleeding and mentioned a laceration  
12 of the posterior head, which was not shown in the  
13 autopsy.

14 Q. Okay. Do you need anything else for  
15 that slide?

16 A. No, I'd just point out that he's 51  
17 years old, 5-foot-10, and 190 pounds, and that's  
18 something we had attempted to match up in the  
19 surrogate work.

20 MR. BARGER: That was Exhibit 597, Your  
21 Honor.

22 BY MR. BARGER:

23 Q. The next exhibit is 598. Can you tell  
24 us what -- what that is caused. You're talking  
25 about road rash. What does road rash mean?



1           A.   Road rash is abrasions to the body.

2                   So in addition to what you can see here  
3 down on his knee and his thigh, as I mentioned  
4 earlier, he had pattern abrasions like this, where  
5 the skin is disrupted in a pattern fashion.

6                   The pattern comes from the aggregate in  
7 the asphalt. And the direction here is the  
8 relative motion of the body relative to the  
9 ground. It really scrapes the skin, abrades the  
10 skin, and creates that pattern mark from the elbow  
11 up to the armpit.

12                  I think what's significant here, when we  
13 go to the next photo, is you can see that -- go  
14 back one, if you would.

15                  You can see that this abrasion extends  
16 up to the level of his shirt. And when we go to  
17 the next slide, we're going to see that right  
18 there where the shirt was protecting, that road  
19 rash stops. It's not that the contact between his  
20 body and the ground stopped there, but he was  
21 protected from road rash in that area.

22                  And so we have really strong indications  
23 this is from the ground. This is from the  
24 roadway, from the asphalt aggregate. It's not  
25 from the side of the bus, which is smooth.

009433

1 Q. Okay. And I think there's a next page  
2 to that. That was Exhibit 598. The second page,  
3 I want you to discuss.

4 A. So as part of the photographs that were  
5 taken at the hospital by the coroner's  
6 investigators, pulled back his shirt, he's wearing  
7 a bicycling singlet, kind of like a wrestler's  
8 singlet, so it's pants but you've got straps that  
9 come over the shoulders. And then he's got a  
10 pull-on shirt, zip-up shirt.

11 Here, they're pulled that back when  
12 we're looking at his left posterior thorax. So,  
13 on me, we're talking somewhere in this area. And  
14 this area was protected by his shirt, but we can  
15 see that there's contusion and there's some amount  
16 of patterning there, again consistent with what we  
17 see on his arm where his arm was unprotected and  
18 directly made contact with the roadway. This is  
19 in the region overlying where he's got the rib  
20 fractures.

21 Q. Okay. And the last page of Exhibit 598,  
22 what are you looking at there?

23 A. This is just a chest x-ray. And it  
24 demonstrates -- I think maybe the jury has seen  
25 this -- looking at the ribs. And you're looking

009434

1 for sort of continuous lines. You see a big  
2 disruption here, another one there. You can see  
3 some additional fractures here and here. So 3  
4 through 9 are fractured. There's another one, yet  
5 another. He's got a lot of disruption of his rib  
6 cage. He hit the ground very hard.

7 Q. Okay. Now, let's go to 599, which is  
8 the next exhibit. I want to ask you a little bit  
9 about that and what you're trying to show with  
10 respect to this injury diagram.

11 A. So this is just an anatomical injury  
12 diagram, frontal bone, parietal bone, temporal  
13 bone, occipital bone back here. And I'm just  
14 pointing out generally where the regions of  
15 fracture are.

16 He's got fractures to both sides of his  
17 occipital bone. That's the bone at the very back  
18 of the head. He's got a right parietal fracture,  
19 which is this green region. There's a note about  
20 a possible atlanto-occipital dislocation, which is  
21 essentially a separation of the head from the  
22 spine.

23 He's got a nasal bone fracture. So the  
24 skull fractures are so significant that there's  
25 also some propagation forward in the skull.

1           And then, additionally, he's got a left  
2 temporal parietal skull fracture that was  
3 described by the medical examiner as being  
4 depressed. So there's a little bit of downward  
5 movement of that bone in the images.

6           Q.    So I'm going to show you the next  
7 photograph, but don't show it yet. Well, that's  
8 fine.

9           This is an autopsy -- excuse me -- a  
10 medical examiner photograph from the coroner;  
11 right?

12          A.    It is.

13          Q.    And so I just want to let everybody know  
14 we're going to show the face of Dr. Khiabani. So  
15 we'll show the next slide.

16                So what are we seeing there with respect  
17 to Dr. Khiabani?

18          A.    Well, he's obviously been cleaned up as  
19 part of the medical examiner's work, but I think  
20 what's significant here -- and I pointed it out  
21 earlier. He's got a left temporal contusion and  
22 there's swelling underneath the scalp over here on  
23 the left that extends forward. And you can see  
24 the pattern mark across his forehead.

25                So there is evidence of loading directly

009436

1 to the skin on the front of his head, in addition  
2 to the left side of his head, and then he's got  
3 skull fractures kind of throughout the whole  
4 cranium.

5           What is, I think, important to point out  
6 from this photograph is that Dr. Khiabani's head  
7 didn't get flattened side to side. It's not  
8 grossly distorted. Although there are a lot of  
9 fractures in his skull, his head didn't get  
10 grossly compressed in a side-to-side fashion.

11         Q.    In a layperson's term, would that be  
12 crushed?

13         A.    It's fractured in many places, but the  
14 structure of the head did not get grossly  
15 distorted. It didn't get squashed, if you will.

16         Q.    Now, there's been several witnesses  
17 testify as to what that bruising pattern across  
18 the forehead was. Do you agree that that was  
19 caused by the helmet?

20         A.    It's caused by the suspension system in  
21 the helmet, yes.

22         Q.    Okay. Can you explain what you mean by  
23 that.

24         A.    Sure. This helmet has a suspension  
25 system in it to keep it on your head. So there's

1 a band that runs across the head. It runs to an  
2 adjustment wheel on the back of the head so you  
3 can tighten the helmet up. And then that also  
4 interfaces with a chin strap. And so you've got  
5 webbing as well as polymer material that straps  
6 around the head and holds the whole helmet  
7 assembly onto the head.

8 And so as part of the loading that he  
9 experienced during this event, his head was sort  
10 of pulled relative to that suspension system. The  
11 suspension system marked and compressed his head.  
12 And it made markings on his left temporal area,  
13 his left frontal area as well.

14 Q. It's caused by the helmet?

15 A. It's caused by the structure of the  
16 helmet.

17 MR. BARGER: That was Exhibit 600 for  
18 the record, Your Honor.

19 BY MR. BARGER:

20 Q. Now, let's change subjects for a moment.

21 If we could take that off and -- don't  
22 put the next slide up right now.

23 You did an evaluation of this,  
24 quote/unquote, air blast theory. Okay?

25 A. I did.

009438

1 Q. All right. And tell the jury, what is  
2 your understanding of where the actual impact  
3 between the bicycle and the bus occurred?

4 A. It's about 8 feet from the front of the  
5 bus.

6 Q. And there's been testimony from  
7 Dr. Rucoba about that?

8 A. There has been testimony from  
9 Mr. Rucoba, yes.

10 Q. Okay. And without going through great  
11 detail, what is your understanding of the location  
12 of the impact between the bicycle and the bus?

13 A. The significant thing in developing my  
14 analysis is that it's 6 feet into the bus's lane.  
15 It's not in the bicycle lane. It's not at the  
16 edge of the bicycle lane, it's a full 6 feet into  
17 the bus travel lane, which is about 8 feet from  
18 the center of the bicycle lane, is where the point  
19 of impact happened.

20 Q. Did that information assist you in your  
21 biomechanical analysis?

22 A. It did. It was something that I  
23 evaluated as part of my analysis. How did he  
24 traverse that 8 feet?

25 Q. What was your understanding of the speed

1 approximately at the time of the impact with the  
2 bus?

3 A. Yeah, it seems like there's consensus.  
4 The bus was traveling 25 miles per hour; the  
5 bicycle was traveling 13 to 14 miles per hour.

6 Q. And you don't disagree with that?

7 A. No, I concur with that.

8 Q. And the bicycle was tipped at what  
9 angle? This may be repetitious; we saw a slide.  
10 But what angle was the bicycle tipped at at the  
11 point of impact?

12 A. 20 degrees. Approximately 20 degrees.

13 Q. Okay. Now, did you perform an analysis  
14 to make a decision or to have an opinion as to how  
15 Dr. Khiabani got into position where he was, which  
16 was 8 foot into the center of the -- excuse me --  
17 8 foot from the center of the bike lane?

18 A. Well, I started with the position  
19 alleged in the case, that some sort of air  
20 disturbance put him over there. And I tested and  
21 evaluated that proposition.

22 Q. Okay. And what did you do?

23 A. I did drive-bys with an exemplar bus, a  
24 surrogate rider. I rode it myself. And we set up  
25 essentially the bus coming by at 25 miles an hour

009440



1 while myself and the surrogate rider pedaled the  
2 bicycle at a target speed of 13 to 14 miles per  
3 hour.

4 We measured how fast we were going with  
5 the bus. We measured how fast we were traveling  
6 with the bicycle. I instrumented the bicycle with  
7 a tilt meter, and that is an electronic sensor  
8 that would allow me to record the tilting motion  
9 of the bicycle as the bus passed.

10 I also put accelerometers on the riders.  
11 That is a pack of, essentially, acceleration  
12 measurement devices. And so their value would be  
13 that if something came along and suddenly bumped  
14 me off balance, those accelerometers would measure  
15 the change in acceleration of my center of  
16 gravity.

17 Q. All right. Let me show you the next  
18 exhibit, which is 601. Is that what you're just  
19 talking about?

20 A. Yes. I used a crash-test-dummy-grade  
21 instrument called the SLICE microsensor. It's a  
22 little block, if you will, that's a data  
23 acquisition system. It stores and records the  
24 data, and it has the accelerometers on board. It  
25 also has rate sensors for how fast you're tipping

009441

1 side to side, forward, backward, or axially.

2 Q. Now, Kevan Granat talked about some of  
3 this, but he left some of the details to you with  
4 respect to this testing. So this is why I want to  
5 go over these details right now.

6 A. Yeah, these are instrumentation that we  
7 added as part of the -- part of measuring what the  
8 rider was doing.

9 Q. Now, you mentioned something about a  
10 rocket. Tell the jury what you were talking about  
11 with respect to the rocket testing.

12 A. Well, at some -- at a later point in my  
13 work, I also looked at other disturbances. And so  
14 we created a lateral wind tunnel. And I drove the  
15 bicycle past a wind tunnel to look at the effect  
16 of a lateral gust on rider kinematics and these  
17 very measurements.

18 And I also put a model rocket engine  
19 onto my back and on the back of the surrogate, set  
20 up a random timing circuit, rode the bicycle in a  
21 straight line, and had the rocket ignite at a  
22 random point in time. And when I say "rocket,"  
23 I'm talking about the kind of rocket that you  
24 would put into a kid's model rocket to shoot it  
25 up.

009442

1           That creates a repeatable amount of  
2 load. We measured that load on the crash test  
3 dummy. It's part of Mr. Granat's work.  
4 And then I did it with myself and a surrogate to  
5 evaluate an unexpected disturbance.

6           Q.    So, now, I think the jury heard that  
7 Dr. Stalnaker said he didn't do any testing.  
8 Okay? So why did you decide to do testing from a  
9 scientific manner?

10          A.    A scientific method -- hypothesis,  
11 testing, evaluation of the theory -- that was my  
12 approach in my analysis of this case.

13          Q.    And why do you use a scientific analysis  
14 as opposed to not doing any testing to reach your  
15 conclusions?

16          A.    That's the appropriate way to evaluate a  
17 theory, an idea, an allegation, is to evaluate it,  
18 set up a test, see if it's really an effect.

19          Q.    Is that how you were trained?

20          A.    It is how I was trained. It's part of  
21 our training in science. It's basic.

22          Q.    Okay. Now, explain to the jury the  
23 actual setup -- okay? -- what you did.

24          A.    Yeah. So we took the exemplar bus. We  
25 put multiple cameras on it. I took the exemplar

009443

1 bicycle, and I put cameras looking forward on the  
2 bicycle, cameras looking backward on the bicycle.  
3 I put that speed angle sensor on the bicycle to  
4 measure the GPS position. Mr. Granat had GPS  
5 equipment in the motor coach.

6 And we basically did multiple runs where  
7 the bicyclist would start riding and the motor  
8 coach would come along and do a pass-by. And we  
9 measured what happened and we documented what  
10 happened using video.

11 Q. And did you do that at different speeds?

12 A. We did. For each of the riders, myself  
13 and the surrogate, we did three runs where we  
14 targeted 13 to 14 miles per hour for the  
15 bicyclist's speed and 25 for the motor coach.  
16 And then we also went higher. We went up to 30  
17 for the motor coach for the second set of runs.

18 I did six runs. My surrogate did six  
19 runs. And then, in addition to that, we collected  
20 data just riding the bicycle in a straight line as  
21 a control.

22 Q. Did you actually ride the bicycle?

23 A. I did.

24 Q. And why did you personally ride the  
25 bicycle?

009444

1 A. I wanted to -- to perceive this alleged  
2 defect. I wanted to feel it firsthand.

3 Q. And you documented your testing?

4 A. I did.

5 Q. All right. And you videotaped your  
6 testing?

7 A. We did.

8 MR. BARGER: Your Honor, I want to show  
9 video Exhibit No. 602.

10 THE COURT: Okay.

11 (Video played.)

12 BY MR. BARGER:

13 Q. Can you tell us, first, at what speed  
14 you're doing this particular test?

15 A. This is at a target bus speed of  
16 25 miles per hour and bicycle speed of 13 to 14.  
17 The first lap here, which you're about to see, the  
18 bus is traveling at about 28 at the point of pass  
19 and the bicycle is traveling 14.

20 Q. Who is that bicyclist?

21 A. That is me on the bicycle. Mr. Granat  
22 is about 3 feet from the centerline of the bus --  
23 excuse me -- from the centerline of the bike.  
24 He's about 2 feet from my arm.

25 Here I am looking -- well, this is a

009445

1 camera view looking forward on the bicycle.  
2 You're seeing my left hand and you're seeing the  
3 bus come by on my left-hand side. There's going  
4 to be multiple views.

5           You can see here. This is the bicycle  
6 motion on start-up. It's a little bit unstable  
7 when you hop up on the bike and you start to get  
8 going. And so you see a little bit of oscillation  
9 in the wheel as I start to get up to speed to that  
10 target speed of 13 or 14 before the bus passes.

11           Q. Now, stop for a second. I want to add  
12 now the volume to that. I'll try to let you talk.  
13 I'm going to have some volume.

14           A. Sure.

15           Q. What are we seeing there?

16           A. This is a rear-looking view from the  
17 bus. You can see little yellow lines on the  
18 ground, little dash lines. Those are 3 feet from  
19 the white line which I'm riding.

20           MR. BARGER: Stop that for a second.  
21 I'm going to have you go back just a frame.

22 BY MR. BARGER:

23           Q. Is that you?

24           A. That's me.

25           Q. At that run, how far were you from the

009446

1 bus?

2 A. The bus is approximately 3 feet -- the  
3 edge of the bus is approximately 3 feet from the  
4 white line that I'm following, which puts my left  
5 arm about 2 feet from the side of the bus.

6 MR. BARGER: Okay. Continue with the  
7 video, please.

8 (Video played.)

9 BY MR. BARGER:

10 Q. That's you on the bicycle?

11 A. It was.

12 Q. And the bus was at what speed?

13 A. 28 miles per hour in that one.

14 Q. 28 miles an hour. And what speed was  
15 the bicycle?

16 A. 14.

17 Q. Now, what is this view?

18 A. This is just the top view looking down.  
19 Camera is mounted on the bus using the suction  
20 cup, and it gives you a top-down view on the  
21 passing maneuver.

22 Q. What is this view?

23 A. This is a view from behind the driver on  
24 board the bus looking forward and outboard.

25 Q. It's still you riding the bicycle?

009447

1 A. This is still the same run but a  
2 different camera view.

3 Q. Is that you?

4 A. That is me.

5 Q. Okay. Now, what is lap 2? What does it  
6 show?

7 A. I did this six times. This is the  
8 second run. Same setup. Same nominal target  
9 speeds for both the bicycle and the bus. In this  
10 one Mr. Granat passes me at about 27 miles per  
11 hour in the bus, and I'm, again, traveling 13 to  
12 14, which was my target speed when he passes.

13 Q. Okay.

14 A. You can see me on start-up again. A  
15 little wobbly, trying to get my foot on top of the  
16 pedals. This particular bike has clipless pedals  
17 on one side and platforms on the other. You can  
18 see there no major disturbance in the path of the  
19 bicycle. There's no significant deviation in the  
20 lane angle of the bicycle.

21 Q. Is this you on the bike and the bus is  
22 passing you?

23 A. This is me again, yes.

24 Q. Okay. Was that you the bus just went  
25 by?



1 A. That was the bus passing me yet again.  
2 This is a rear-looking view from the bus.

3 And now a forward-looking view. This  
4 would be the last view of that same run looking  
5 from on board the bus.

6 Q. Any other views on this video?

7 A. I think that's the end of that second  
8 lap.

9 Q. Okay. Now we're at the lap 3.

10 A. I did it four additional times, that's  
11 right.

12 Q. Why did you do it six times?

13 A. To get additional data, to keep  
14 collecting data, to have multiple replicates,  
15 multiple runs.

16 Q. Okay. That's your left hand?

17 A. That's my left hand on the left riser.

18 Q. What speed was this lap? Do you know?

19 A. Yeah. The bus passed me at 27 1/2 miles  
20 an hour, and I was again traveling 13 to 14.

21 Q. Okay.

22 MR. BARGER: You can turn the volume  
23 down a little bit if you can.

24 BY MR. BARGER:

25 Q. Is that you?

009449

1 A. That's still run No. 3 with me as the  
2 rider.

3 Q. Okay. And I want to just run through  
4 these real quick. This is the third one?

5 A. This is third. There are six.

6 Q. Let's go ahead and continue to run  
7 through. Just tell us the speed each time.

8 A. And this one is still 27 1/2 for the bus  
9 speed and 13 to 14 on the bicycle.

10 Q. So while we're running through that,  
11 what I'd like to do is what did you experience as  
12 the bicycle rider when the bus was running past  
13 you at those speeds and at that distance?

14 A. I could hear the bus coming. I had the  
15 sensation of some air movement as the bus passed  
16 by me. I had no sensation of any particular  
17 disturbance one way or the other. I could just  
18 feel air moving past my body, like when a car  
19 passes you, something like that. No  
20 distinguishable torque on the steering wheel or  
21 the handlebars of the bicycle.

22 As I got towards the back of the bus, I  
23 could feel maybe a little bit of a draft, like the  
24 bus was pulling me along when I got behind it  
25 essentially to the very back edge of the bumper.

009450

1 But no perceptible forces pulling me off path,  
2 nothing torquing my handlebars, just a sensation  
3 that there was some change in the air movement  
4 around my body.

5 Q. Were you air-blasted away?

6 A. I was not air-blasted. I wasn't knocked  
7 off my path. The accelerations that were  
8 experienced during the passing interval through  
9 the instrument that was on my chest were less than  
10 the accelerations that I experienced when I was  
11 riding up the side-to-side accelerations of trying  
12 to get up to speed.

13 That's where we tend to be a little  
14 unstable when you first start out. You'll see if  
15 you watch the videos at the start of the run, the  
16 bicycle is kind of oscillating the line until I  
17 get up to speed, until I get momentum, until the  
18 wheels get to their momentum to stabilize the  
19 bike.

20 Q. Okay. If you start from scratch at  
21 zero, it takes a while to get up to speed?

22 A. It does take a little while to get up to  
23 speed. And the bicycle -- you can try this -- I'm  
24 sure you have tried it. Bicycles are more stable  
25 when you're under speed. When you stand on your

009451

1 foot pegs, you've got to work to balance.

2 Q. Okay. Now, we briefly touched on this.  
3 At this point, there's, I think, one or two videos  
4 left, and they're in evidence for the jury to see.

5 Is there anything in the last video  
6 that's any different than what you've seen?

7 A. Just some of the runs, the last three  
8 runs are higher. They're at 29 to 31 miles per  
9 hour for the bus passing speed. In all cases my  
10 bike speed is very close, 13 to 14 miles per hour.

11 Some of the runs, if you watch on the  
12 overhead view -- if you can just pause for a  
13 second with when that yellow line comes up.  
14 There's the yellow line that just disappeared  
15 under the bus.

16 That means that the bus is closer than  
17 3 feet to the bike rider. So that yellow line  
18 that's right there -- thank you -- is about to  
19 disappear on the side of the bus, and that means  
20 that this distance is a little bit under 3 feet.  
21 That means that he's closer than 2 feet to my arm.

22 Q. Again, I want to go back to you did this  
23 with a surrogate. And the surrogate you used  
24 was -- that's fine -- I think we can commence with  
25 them. They're available here for everybody to

009452

1 see. You're on lap 4. You got two more of these.

2 A. There's six total laps with me as the  
3 operator. There's six laps with the surrogate as  
4 an operator. The surrogate was 198 pounds and  
5 he's 5-foot-10. So a few pounds heavier than  
6 Dr. Khiabani at autopsy, although they had  
7 harvested some organs at that point. So it's  
8 pretty similar.

9 Q. Without being repetitious, but answering  
10 the questions, though, the criticism of you used a  
11 surrogate similar to Dr. Khiabani, why did you do  
12 it?

13 A. Newton's second law,  $F$  equals  $ma$ . If  
14 there's --

15 Q. Wait, wait. Time out. I'm sorry. I  
16 don't know what Newton's law is, to be honest with  
17 you. Tell it in words we can all understand.

18 A. Okay. Newton's first law is objects in  
19 motion stay in motion. Newton's second law -- and  
20 this is kind of the underpinning of the physics  
21 that we do in analyzing human motion or vehicle  
22 motion or any kind of motion --  $F$  equals  $ma$ .

23 So if you're talking about some air  
24 disturbance applying a force to the cyclist and  
25 causing the cyclist to move, you're talking about

1 F equals  $ma$ . And the effect of some force, some  
2 hypothetical force, is proportional to the mass of  
3 that object.

4 I can blow on this piece of paper and  
5 make it move. I can't blow on my water bottle,  
6 although I can spill it. I can't blow on my water  
7 bottle and make it move. Why? If I blow the  
8 same, this has got more mass; it's got more  
9 inertia.

10 So the effect on an object of some  
11 force, some hypothetical force, in this case from  
12 air, is directly related to the mass of an object.  
13 The more massive, the more resistant it is.

14 Q. Using the surrogate, did you get any  
15 difference than when you were riding the bicycle?

16 A. Same fundamental result, same  
17 observations. The accelerations during the  
18 passing event were less than the start-up  
19 accelerations. They were less than the steady  
20 accelerations of the 12 to 13 miles per hour. No  
21 deviations in the path, no angulations of the  
22 bicycle as a result of the passing movement of the  
23 bus.

24 Q. Do we have videos of the surrogate?

25 A. I do. I didn't put them into the

1 exhibits.

2 Q. Okay. Without prolonging this, was  
3 there any deviation different than when with you?

4 A. More of the same. Same result. Same  
5 observations.

6 Q. All right. There's a word called  
7 "lateral acceleration." What is that?

8 A. In this context, I'd say acceleration to  
9 the side, laterally. You know, in your car, for  
10 example, hitting the gas will accelerate you  
11 forward and backward. Cornering involves lateral  
12 acceleration. So if you're going down the road  
13 and you whip a wheel or you're thinking about  
14 coming on an on-ramp of the freeway, the big  
15 cloverleafs, as you turn the wheel, if you  
16 maintain constant speed, you're getting lateral  
17 accelerations. Typical car, if you do that fast  
18 enough so your tires squeal, you're going to see  
19 about 7/10 of a G.

20 Q. Did you do any of these tests to look at  
21 the lateral acceleration?

22 A. I did. I measured lateral accelerations  
23 on the chest of myself and the surrogate, and I  
24 compared the lateral accelerations when the bus  
25 passed to the lateral accelerations that were

009455

1 present as we accelerated up to speed. The  
2 accelerations associated with the bus passing were  
3 smaller, had lower magnitude, than the  
4 accelerations of starting up or starting up and  
5 getting up to a speed of 12 to 13 miles per hour.

6 I also, after the bus -- six runs, I did  
7 some runs where I just tried to ride the white  
8 line, tried to keep a straight line with the  
9 bicycle at no passing event. And, again, those  
10 accelerations were larger during the start-up with  
11 no bus coming by than when the bus passed.

12 Q. Okay. Now, did you do some pass-by  
13 demonstrations to test the lateral acceleration?

14 A. So one of the things that I wanted to do  
15 was to more controlled, if you will, lateral  
16 application of the force. So this includes  
17 everything that's alleged to have occurred: bus  
18 passing, creating some air disturbance.

19 I also went to just a lateral wind  
20 tunnel. So I set up an air movement lateral to  
21 the bicycle path. Mr. Granat measured that. It's  
22 about 150 percent of what he observed when the bus  
23 passed at 3 feet.

24 And so I did the same sort of  
25 measurements with bicycle tilt angle, bicycle

009456



1 speed, and chest accelerations when going in front  
2 of this lateral wind, which was set to about  
3 12 miles an hour for about a 6-foot area.

4 Q. Did you videotape those tests?

5 A. I did.

6 Q. And how many of those tapes do we have?

7 A. We've got a cut here that shows three  
8 passes with me as the operator. I also rode it  
9 backwards when I came back to do the next run. We  
10 still had the instrumentation running, but we'll  
11 see three with me as the operator here.

12 MR. BARGER: Okay. So this is Exhibit,  
13 Your Honor, No. 603.

14 (Video played.)

15 BY MR. BARGER:

16 Q. Who is rider 2?

17 A. Rider 2 is me.

18 Q. Okay. Now, stop that for a second.

19 What was it -- what is it you're doing  
20 there? What is that setup?

21 A. Yeah. If you could come back to the  
22 beginning of the video and let it roll to the  
23 first scene there. Pause, if you would.

24 So I've created a little area in here  
25 about 6 feet wide where I've got two industrial

009457

1 fans that are blowing air basically perpendicular  
2 to the path of the bike. I'm going to ride the  
3 bike about 2 feet away from that orifice where the  
4 air is coming out. We use these mobile mini  
5 containers basically to create a break there.

6 So we have no air moving. We've got  
7 this lateral windblast -- or not blast at all.  
8 Little bit of lateral airflow at 12 miles an hour.

9 And then I'm going to continue past.  
10 You can see the dotted lines here of the path that  
11 I'm going to follow. I'm simply riding in a  
12 straight line in front of that.

13 The loads produced by this  
14 12-mile-an-hour wind in Mr. Granat's measurement  
15 were about 150 percent of when the bus passed at  
16 25 miles per hour.

17 Q. So it would be stronger?

18 A. It's stronger.

19 Q. A stronger force than when the bus  
20 actually passed?

21 A. Correct.

22 Q. Because you have this fan blowing out?

23 A. Yep. To create a directed flow  
24 perpendicular to my path.

25 Q. So let's continue with the videos.

1 Is that you?

2 A. That is. And, again, we're going to  
3 have multiple views.

4 Q. Approximately how close were you to that  
5 fan?

6 A. I'm 2 feet off the containers, 2 feet  
7 away from the area where the fan-directed wind was  
8 coming out of the orifice there.

9 And the last two cameras were the ones  
10 that were on the bike, obviously.

11 Q. Now, you had a second run?

12 A. I did.

13 Q. And then you had a third run?

14 A. Correct.

15 Q. And they're all on this video?

16 A. They are.

17 Q. Was there any difference between the  
18 three runs with respect to how it felt?

19 A. Just very similar. As you pass in front  
20 of the fan, you can feel some change in the wind  
21 flow over your body but no perceptible movement of  
22 the bike as a result of that, no perceptible  
23 torque applied to the wheel. It doesn't rise  
24 above normal riding, except that I've got noise  
25 and I've got a feeling of some air moving over my

009459

1 body.

2 Q. Were you, quote/unquote, air-blasted?

3 A. I was not. Not at all.

4 Q. Now, did you look at any other --  
5 besides the lateral, what about thrust?

6 A. Yeah. So one thing that I wanted to do  
7 is to have the disturbance applied randomly in a  
8 way that I wouldn't know when it was coming and my  
9 surrogate rider wouldn't know when it was coming.

10 As part of this work, I'm wearing,  
11 essentially, a tactical vest for putting Kevlar  
12 plates in there. We made a system where we could  
13 suspend a rocket, model rocket, off the back. And  
14 we put a model rocket in there, a B6-0 model  
15 rocket, and created a random timer to ignite that  
16 as I was riding.

17 And we went back to that original  
18 course. I drove down that white line, and the  
19 rocket was randomly triggered at a time when I  
20 didn't know when it was going off.

21 Q. What is thrust?

22 A. Well, thrust is force applied. In the  
23 sense of a rocket motor, you're using the pyro.  
24 You're using the charge, if you will, to create a  
25 period of thrust, of force.

009460

1           So the rocket, model rocket engine,  
2 fires, it presses against the fixture that we  
3 develop, and it applies load to the rider. And it  
4 does it in a controlled fashion because these  
5 rocket motors are charge size. They have  
6 specifications. And so we get a known amount of  
7 force out of it.

8           Q.   Why did you set it for a random thrust  
9 as opposed to knowing when it's going to happen?

10          A.   I wanted you to know and I wanted  
11 anybody who's looking at the work to know that I  
12 didn't know when it was going off. I couldn't  
13 expect it. I couldn't know what that load level  
14 was going to be. I couldn't know when it was  
15 going to be applied.

16          Q.   So you couldn't just -- if you knew when  
17 it was going to apply, you would be prepared for  
18 it?

19          A.   Well, I don't know what I would do with  
20 that, but some people might say that I was  
21 prepared for it. I knew that I was going to go in  
22 front of these fans in the example that we just  
23 showed. But with the rocket motor, I wouldn't  
24 know when that was going to happen. I wouldn't be  
25 able to predict when it was going to happen. And

009461

1 that was the point.

2 Q. Okay. So what did you do? Do we have a  
3 video that shows that?

4 A. We do.

5 Q. Okay. 604, I believe, was the last  
6 video. That's still showing the pass-bys; right?

7 A. This is the impulse disturbance. This  
8 is the rocket motor.

9 Q. Is that you?

10 A. That's me on the bicycle. I'm now on  
11 that white line that we were riding as the bus  
12 passed us in the previous videos. And I'm going  
13 across our skid pad along that line, maintaining  
14 13 to 14 miles per hour. And then at a random  
15 point in time coming up here, that rocket motor is  
16 going to fire on my back and apply a load to my  
17 body at an unexpected time.

18 We measured the amount of load that's  
19 generated by this rocket motor in Mr. Granat's  
20 setup with the crash test dummy. It's 4 1/2 times  
21 the load that's produced by the bus passing.

22 Q. While you're not looking, the rocket  
23 just went off. Let's back it up.

24 Before you start, what do you mean you  
25 measured the load and it was 4 1/2 times? What

009462

1 does that mean?

2 A. So Mr. Granat measured, with a crash  
3 test dummy in a load cell, the forces imparted to  
4 the crash test dummy when the bus passed.

5 As part of our work -- we collaborated  
6 on this -- we also put the crash test dummy into  
7 his setup. We put the rocket motor on the crash  
8 test dummy's back, and we measured the disturbance  
9 produced by the same size rocket motor using the  
10 crash test dummy. And it was 4 1/2 times the  
11 measurements that he obtained when the bus passed  
12 at 25 miles per hour in about a 3-foot separation  
13 distance.

14 Q. So let's show the rocket accelerating.

15 (Video played.)

16 BY MR. BARGER:

17 Q. So what happened there?

18 A. So the rocket motor fires. I've got it  
19 set so that, if there were a rocket on my back, it  
20 would have been projected to the right. But I'm  
21 not a rocket. I weigh a heck of a lot more than a  
22 model rocket. So it just applied that through a  
23 fixture to my body through the vest and  
24 essentially did not disturb my path of travel. It  
25 did not cause me to angulate with respect to the

009463

1 bike. It's completely manageable.

2 Q. Do you consider that to be a scientific  
3 analysis?

4 A. I do.

5 Q. We have several of these; right?

6 A. We have some different views, yes.

7 Q. Okay. Let's show a couple of different  
8 views, and then we'll move to what your  
9 conclusions and evaluations were from using the  
10 rocket.

11 A. There you can see the front view as the  
12 rocket motor goes off, and this is the rear view.  
13 You pretty much have to listen for the timing of  
14 the rocket motor deployment. It's best seen in  
15 the chase view, which we saw first.

16 Q. And you didn't know when this was going  
17 to happen?

18 A. I didn't know when it was going to go  
19 off. I knew that there was some time interval, 20  
20 to 25 seconds after we triggered it.

21 There you can see a puff.

22 Q. That was a puff of smoke, and that's  
23 when the rocket went off?

24 A. That's right. And this particular  
25 rocket has a thrust phase, where it was pushing on



1 me from left to right. And then model rockets are  
2 designed to shoot the nose cone out, if anybody  
3 has ever played with those. And so it's got a  
4 counterthrust at the end, where it shoots a thrust  
5 to the right, a short pulse.

6 Q. And what were your evaluations doing  
7 that test?

8 A. No deviation of path. This sort of  
9 disturbance, which is larger than the bus passing,  
10 did not influence my path. It did not influence  
11 the angulation of the bike. It did not knock me  
12 off balance, did not knock the bicycle off its  
13 path. And this is significantly more forceful  
14 than the bus passing at 25 miles per hour when the  
15 rider is going 13 to 14.

16 Q. Okay. So what was your conclusion from  
17 this test with respect to the air blast?

18 A. There's no air blast. The air blast did  
19 not knock Dr. Khiabani 6 feet into the adjacent  
20 lane.

21 Q. Okay. Now, you did some other tests,  
22 did you not?

23 A. I did.

24 Q. I want to talk to you about your bicycle  
25 cyclist turning evaluation. Okay?

009465

1 A. Yes.

2 Q. And what were you trying to evaluate by  
3 a turning mechanism?

4 A. I'm just evaluating essentially a  
5 surrogate rider, the same surrogate, making  
6 multiple turns at different radiuses to look at  
7 different speeds and different angulations of the  
8 bike and look at how he actually executes a turn.

9 So I had him make left-hand turns on  
10 radiuses from 5 to 40 feet at various speeds. The  
11 ones that I was going to show here are at 12 to  
12 13 miles per hour, which is relevant. And these  
13 are all tests that we observed tilt angles over  
14 17 degrees on the bicycle. And remember that the  
15 measurement, by putting the bicycle up next to the  
16 bus, was 20.

17 MR. BARGER: So we have a video, Your  
18 Honor, Exhibit 605, that we're going to play now.  
19 BY MR. BARGER:

20 Q. And tell the jury what you're doing  
21 there.

22 (Video played.)

23 THE WITNESS: So I'm just having the  
24 surrogate essentially make laps. These particular  
25 ones are at -- make laps and make left turns in

009466

1 this area where I've got cones and I've got some  
2 radii painted on the ground. He's just executing  
3 left-hand turns. And while he's doing that, I'm  
4 measuring the GPS position of the bike, and I'm  
5 also measuring the tilt angle of the bicycle.

6 BY MR. BARGER:

7 Q. And why are you doing that?

8 A. I'm going to evaluate these angles as  
9 they relate to the physical evidence on the bus  
10 and on the bicycle. And that is that 20-degree  
11 angulation of the bike and the bike rider behavior  
12 during these tests.

13 Q. Did you actually yourself ride the bike  
14 in some of these tests?

15 A. I did not. This is with my surrogate  
16 only.

17 Q. Okay.

18 Now, Exhibit 605A is what? That's on  
19 the board now. That's a still picture as opposed  
20 to the video.

21 A. That's a still picture of Run 8, where  
22 our surrogate is at 20 degrees from the  
23 measurements on the bicycle. And this particular  
24 image is about 1.2 seconds into the turn. He's at  
25 20 degrees. He's traversed approximately 5 feet

1 where the sensor is, about 6 feet where the front  
2 of the bicycle is at this point.

3 And so I'm showing a body position and a  
4 displacement of the bike from the straight line  
5 leftward at 6 feet, which is consistent with where  
6 our physical evidence is in the roadway; that is,  
7 6 feet into the bus's lane.

8 MR. BARGER: Let's show 605B, Your  
9 Honor, for the record.

10 BY MR. BARGER:

11 Q. Is this B?

12 A. Go back.

13 Q. Go back one?

14 A. There you go.

15 Q. And you're showing the same thing  
16 basically there?

17 A. A little further into the turn. So this  
18 is about 7 feet with the bike sensor. So the  
19 front of the bike has moved about 8 feet to the  
20 left relative to the initial straight-ahead path.

21 And so this would be a leftward movement  
22 consistent with where the physical evidence is in  
23 the bus's lane, assuming the bike started in the  
24 middle of the bicycle lane.

25 Q. Now, let me ask you this question: In

1 the video, did you have the bicyclist rotate the  
2 handlebar aggressively or not?

3 A. I had him just make turns at various  
4 speeds. I didn't tell him how to ride a bicycle.  
5 But the fact is that you turn a bicycle -- for  
6 example, to make a left turn, you actually  
7 subtlety turn the bicycle handlebars to the right.  
8 That causes the wheel to go out from under you a  
9 little bit, and you lean. And bicycle turns are  
10 executed by leaning. And you can see that here.

11 You can also see that that front tire is  
12 not grossly rotated relative to the bike frame.  
13 It's a very subtle angle of the front wheel  
14 relative to the bicycle frame.

15 Q. Did you measure the time for the  
16 different speeds and angles and come up with a  
17 number?

18 A. Yeah, I did. This particular image is  
19 at 1.3 seconds. It would correspond to about  
20 8 feet of leftward movement at the front of the  
21 bike.

22 Q. Okay. The slide before that, did you  
23 measure that angle?

24 A. I did. The bike's at 20 degrees here.

25 Q. Okay. Now, you did these demonstrations

009469

1 and you discussed that time. So how do those  
2 times relate to the bicycle position relative to  
3 the bus in this case? Explain that.

4 A. Yeah, so one thing that I wanted to do  
5 was evaluate how long does it take the rider to go  
6 6 feet or 8 feet to the left. 6 feet is the  
7 distance that the bicycle is in -- the distance  
8 it's into the bus's lane at the point of impact.  
9 8 feet would be from the center of the bike lane  
10 to the point of impact.

11 And so I looked at these turn maneuvers  
12 and evaluated how long it took. This one is the  
13 most conservative. It took only 1.2 seconds to  
14 1.3 seconds for the bicycle to go from its  
15 straight-ahead path to being over 6 to 8 feet.

16 Q. So there's been testimony here -- and  
17 we'll get your opinions -- about a leftward  
18 movement of the bike. Okay?

19 A. Yes.

20 Q. All right. And have you compared that  
21 timing and your distance there to where the bike  
22 would have been in this accident at the time using  
23 your angles and your timing?

24 A. Yeah. So looking at this timing, I went  
25 back to the pass-by demonstrations. And I looked

009470

1 at, okay, 1.2 seconds prior to the bicycle being  
2 even with where our physical evidence is on the  
3 bus. And if I may --

4 Q. By the way, we're looking at  
5 Exhibit 606. Explain what that is.

6 A. Remember that our physical evidence is  
7 that we've got contact between this portion of the  
8 handlebar and the riser on the left and the  
9 bike -- the bus in this area.

10 And so I've lined up -- called that time  
11 zero. I'm going to go backwards and look at where  
12 this bicycle is 1.2 seconds before that. And I  
13 got that 1.2 seconds from how long it takes the  
14 bike to make that turn at 12 to 13 miles per hour  
15 and to get 6 to 8 feet into the adjacent left  
16 lane.

17 Q. Okay. And Exhibit 606 was the second  
18 page.

19 A. Yeah, this is just another camera on the  
20 bicycle. This is the rear-looking view from the  
21 bicycle from those pass-by demonstrations.

22 Q. All right. And there's a third page.  
23 What is that?

24 A. The third page is now 1.2 seconds in  
25 time before that. Where's the bicycle? It's not

009471

1 visible alongside the bus. In fact, it's out in  
2 front of the bus.

3 Q. Okay. So try to explain to us what that  
4 means.

5 A. It takes time for the bicycle to go from  
6 the bicycle lane to 6 feet over into the adjacent  
7 bus lane. The most conservative of my runs was  
8 1.2 seconds to go 6 feet, 1.3 seconds to go  
9 8 feet. The others were longer.

10 So what I'm showing here is if a turn  
11 was initiated that resulted in contact between the  
12 bicycle and the bus with the bus translated over  
13 in its lane 6 feet or the bicycle moved over that  
14 far, that turn has to be initiated earlier in  
15 time. It has to be initiated in this case when  
16 the bicycle is out in front of the bus.

17 Q. Okay. So do we have another view, the  
18 next slide of that exhibit?

19 A. I do.

20 Q. Okay. What does that show us?

21 A. So I went back 1.2 seconds in time on  
22 the rear-facing view from the bicycle. And you  
23 can see that the tire and the bicycle are out in  
24 front of the bus, just as you saw in the other  
25 view, but it demonstrates that the amount of time

009472



1 required to execute a turn to achieve 20 degrees  
2 of angulation, to be going 12 to 13 miles per hour  
3 and end up 6 to 8 feet in the adjacent lane,  
4 requires that that turn be initiated when the  
5 bicycle is out in front of the bus. An air blast  
6 associated with the front end of the bus can't  
7 cause that. It takes time.

8 Q. Go to the next part of that exhibit.  
9 That's four different photos. What are you  
10 showing there?

11 A. So the top panel is the time-zero images  
12 that we saw and of our lineup with our area of  
13 physical evidence, the rear-looking camera at the  
14 same time. And then I've gone back in time 1.2  
15 seconds. The bicycle is in front of the bus, and  
16 you can see that in the rear-looking view from the  
17 bicycle.

18 Q. So from a layperson's standpoint, what  
19 conclusion did you reach from the surrogate turn  
20 demonstration?

21 A. That it takes a period of time for the  
22 bicycle to get 6 to 8 feet into the bus's lane.  
23 That period of time requires, given the closure  
24 speeds that are at play here, that that turning  
25 maneuver was executed before the bicycle got even

1 with the front of the bus.

2 Q. Okay. Is that consistent with a left  
3 turning maneuver with the bicycle in front of the  
4 bus?

5 A. It sure is.

6 Q. Okay. Now, I want to switch subjects  
7 with you for a moment. Okay? I want to talk  
8 about the head injury mechanics now. Okay?

9 All right. What I want to ask you a  
10 little bit about is the injury patterns with  
11 respect to Dr. Khiabani. Okay?

12 A. Yeah.

13 Q. I think we have an exhibit. You've  
14 already discussed with us what those were, but  
15 refresh our memories with respect to the injury  
16 patterns without going back to the exhibit.

17 A. Skull fractures left and right in the  
18 back, right parietal skull fracture, left temporal  
19 parietal skull fracture, basilar skull fracture --  
20 which means underneath -- as well as some nasal  
21 fractures.

22 Q. And that showed that injury pattern we  
23 showed early on; right?

24 A. You can see it in the diagram.

25 Q. I'm not going to pull it up again.

009474

1 THE COURT: Dr. Carhart, will you please  
2 speak a little bit slower?

3 THE WITNESS: Sure.

4 THE COURT: Thank you.

5 MR. BARGER: Thank you, Your Honor.

6 BY MR. BARGER:

7 Q. Let's talk about the helmet. Okay?

8 A. Yes.

9 Q. So that photograph is Exhibit 607. And  
10 it has several pages to it. And I want you to  
11 walk through with the photograph first,  
12 and then we'll go to the helmet.

13 A. Okay.

14 Q. As to what you're showing -- and is this  
15 the actual helmet?

16 A. This is the actual helmet. These are  
17 photos that I took during my inspection of the  
18 bus, the bicycle, and the helmet, and the shoes.

19 Q. Okay. Now, we've got several slides I'm  
20 going to ask you some questions about. Show us  
21 what you're seeing with respect to helmet damage.  
22 Okay?

23 A. Yeah. So there's some very distinct  
24 markings on the helmet shell. And I'll just point  
25 out a bunch of them here. You see all these

009475

1 little dithered points, dimples if you will?

2 Q. You have to have your microphone,  
3 Doctor. I'm sorry.

4 A. I'm sorry.

5 You can see all these dimpled points on  
6 the shell of the helmet. Those are from the  
7 aggregate in the asphalt. There are bumps in the  
8 asphalt. When the helmet gets forcibly pressed  
9 into the asphalt, it creates those bumps.

10 And they're significant in this case  
11 because if something is interacting with the  
12 bottom of the tire, the tire rolls. That means  
13 that on the bottom of the tire, there's no  
14 sliding. It's going zero velocity relative to the  
15 ground on the bottom. And so anything that would  
16 get in contact with the lower part of the tire  
17 would be going zero relative to the ground. And  
18 so you would have pockmarks, if you will, dimples,  
19 and they wouldn't have abrasions in them because  
20 there's no relative motion.

21 On this helmet, we have extensive  
22 dimpling on the top. We have extensive dimpling  
23 on the back. We have some of that extending a  
24 little bit onto the back left side. But we don't  
25 have dimpling over here on the left side of the

009476

1 helmet. It isn't dimpled from asphalt over here  
2 on the left-hand side. It is on the top. It is  
3 on the back. This area back here has been folded,  
4 and there are dimples also in the foam liner in  
5 that region.

6 MR. BARGER: Go to the next slide,  
7 please.

8 BY MR. BARGER:

9 Q. What are you seeing in this slide?

10 And by the way, Doctor, this is the  
11 helmet that we're talking about; correct?

12 A. Yep, it is.

13 Q. We'll have an opportunity to actually  
14 physically look at it, but I want to get a preview  
15 of the slides first.

16 A. Yeah, so here I'm looking at the very  
17 back left of the helmet. And I'm drawing your  
18 attention to this area. The helmet liner material  
19 is a little bit thicker, it's a little bit bigger,  
20 in the back. It kind of sticks out the back.

21 In this area, the foam has actually got  
22 dimples in it. That was loaded into the asphalt.  
23 It was twisted and deformed and has those dimpled  
24 characters. And, again, I'm drawing your  
25 attention over here to the left-hand side. I've

009477

1 got some abrasions over here, but I don't have  
2 those dimples consistent with contact to the  
3 asphalt and forceful contact to the asphalt over  
4 here on the left side of the helmet.

5 Q. So would it be helpful to use the actual  
6 helmet to show what you're talking about?

7 MR. BARGER: If we may, Your Honor?

8 THE COURT: I think so.

9 BY MR. BARGER:

10 Q. You know what? Can you take the helmet  
11 and I'll hold the microphone, because I think we  
12 have to have the microphone. And if you'll come  
13 over here.

14 A. And the significance of the blue? Can I  
15 move that? What's the blue sticky?

16 MR. KEMP: I don't think you should move  
17 that. Remember, you had Dr. Stalnaker --

18 MR. BARGER: There was a big piece of  
19 tape.

20 THE WITNESS: You've got tape right here  
21 still.

22 BY MR. BARGER:

23 Q. I'll tell you what. Let's don't move  
24 the blue, but -- do you need to move the blue to  
25 show --

1           A.   Well, I wanted to show them the  
2 left-hand side of the helmet and the condition of  
3 the shell on the left side of the helmet.

4           Q.   So --

5           THE COURT:   But before you remove  
6 that --

7           MR. GODFREY:   You want to take a picture  
8 of it?

9           MR. BARGER:   Yeah, we can just do that.  
10 Can you do it that way?

11 BY MR. BARGER:

12          Q.   I think we want to leave that blue  
13 sticky the way that it is, so show what you can  
14 with respect to not removing the blue sticky.

15          A.   I usually use a flashlight to do this,  
16 but hopefully you can all see that there are  
17 dimples. As I sort of turn that to the light, you  
18 can see those kind of light up.

19                There are also dimples back here on the  
20 very back left of the helmet, the liner. You can  
21 see the character there has got little bumps in  
22 it, if you will, impressions.

23          Q.   So where's the front of the helmet?

24          A.   This helmet would go on the head like  
25 this. So this is the left-hand side. This is the

009479

1 back. And I'm going to just work around this blue  
2 sticky.

3 One thing that's very significant in  
4 looking at the helmet is that, on the left side,  
5 there's no dimples in that shell. And if we look  
6 underneath in the left side, we've got a crack  
7 right here of the EPS liner. This is expanded  
8 polystyrene. It's foam. It's expanding.

9 And it's in there, because when you hit  
10 your head and you have your helmet on, you want  
11 that material to deform. It absorbs energy. It  
12 reduces the loads on your head that protects your  
13 head. The idea of this helmet is, you get in an  
14 incident, you bang your head, you compress the  
15 liner, and you throw it away and go buy a new one.  
16 That material is there to break, to be destroyed  
17 by the event to protect you.

18 With respect to the left side -- so,  
19 again, this is the orientation. This is the left  
20 side of the helmet. I'm just going to tip it up  
21 so you can look underneath. And there's a crack  
22 in the liner here, but the foam is not smashed.  
23 So two significant findings here: no dimpling  
24 on the left-hand side, and our foam, if we look  
25 inside, is not smashed or compressed the way that

009480



1 it would be if there was a heavy load transmitted  
2 through that.

3 Q. Why is that significant?

4 A. Well, it doesn't work if somebody is  
5 going to argue that the helmet was run over in a  
6 side-to-side fashion, because that side is going  
7 to be against the asphalt. You've got a wheel  
8 coming along like this, and the left side is down  
9 against the ground. The left side should have  
10 dimples from the asphalt.

11 It should have smashed liner material,  
12 because if you've got a load here applied through  
13 the head, it's going to apply through the left  
14 side of the helmet to the ground. Where is the  
15 ground evidence? It's not there. Where is the  
16 compression in the liner material on the left-hand  
17 side? It's not there; it's in the back of the  
18 helmet.

19 Q. Okay. And so we're going to talk about  
20 Dr. Stalnaker's opinion later. Do you have  
21 anything else you need to show right now with  
22 respect to that helmet?

23 A. Yeah. Well, there's a pattern mark.  
24 And it looks like Dr. Stalnaker kind of put it --  
25 I'd say further forward than it really is.

009481

1 There's a crease line on the right-hand side of  
2 the helmet. And this crease line is due to  
3 interaction with the tire. It creased the right  
4 side of the helmet. It folded the helmet down  
5 against the back, which was against the ground.

6 Q. Okay. And do you recall  
7 Dr. Stalnaker's testimony with respect to how much  
8 of what he said the tire ran over this helmet?

9 A. I saw testimony at 5, 6, and 7 inches,  
10 5, 6, and 7 inches being underneath the tread  
11 block of the tire.

12 A couple more points with respect to  
13 this helmet. This is the helmet suspension  
14 system. So let me try and orient you again. This  
15 is the back. You see that it's all destroyed in  
16 the back, but that's the wheel that you would  
17 adjust when you put this helmet on. You spin it  
18 down into the harness system in there.

19 This harness system has been torn free  
20 from the helmet. It's been snapped, fractured.  
21 There is that harness system that would go around  
22 the front of your head. It's been torn apart.  
23 There's stress risers in there that is ripped  
24 apart, if you will.

25 And the configuration is, when you're

009482

1 wearing this helmet, that that band goes around  
2 your head. It goes in the region where  
3 Dr. Khiabani has contusion across his forehead,  
4 where he has contusion extending into the left  
5 temple area, where he's got swelling underneath  
6 the scalp. That's the pathway of that strap, and  
7 that strap has been overloaded and broken.

8 I guess a couple more features here.  
9 These are the anchors -- or this is an anchor --  
10 for how the strap system goes in. This would sit  
11 up here on the top of the helmet. That got ripped  
12 out. The other side got ripped out.

13 And then somebody came along and cut it and cut  
14 the straps.

15 But the harness system, what holds it on  
16 the head, got destroyed. The anchors got ripped  
17 out of the helmet. There was a lot of load of the  
18 helmet relative to the suspension system which was  
19 attached to Dr. Khiabani's head.

20 Q. Do you need to discuss the helmet  
21 actually any further right now?

22 A. I think that's good for now.

23 Q. Okay. Let's put it back in this little  
24 sack -- or you can leave it back on the desk.

25 A. We may refer to it.

009483

1 Q. I'm going to let you --

2 A. Where did you have it?

3 Q. If we could put it right here, I think  
4 it's safe.

5 I think in your work you said you  
6 conducted CT scans in a 3-D reconstruction of the  
7 subject helmet; is that correct?

8 A. Right. So we put it in a CT scanner and  
9 we measured it.

10 Q. All right. Let me show you Exhibit 608.

11 I think you need to go to the helmet CT  
12 scan photograph. There.

13 What is this?

14 A. This is a piece of equipment that we  
15 have in our Natick office. It's a high-resolution  
16 CT scanner.

17 Q. Now, let me tell you, I'm trying to get  
18 through with you as fast as I can, but you're --  
19 you know, you can slow down. I think the Court  
20 wants to make sure we've got an accurate record.

21 THE COURT: Yeah.

22 THE WITNESS: So we used this technology  
23 to create a three-dimensional image of the subject  
24 helmet as well as an exemplar helmet.

25

009484

1 BY MR. BARGER:

2 Q. Was this done in Boston?

3 A. It was done in our Boston office.

4 Q. And what was the purpose of doing this?

5 A. I wanted to map the damage to the helmet  
6 so that I could create some exhibits to  
7 demonstrate how Dr. Khiabani's helmeted head  
8 interacted with the bus.

9 Q. And did you do so?

10 A. I did.

11 Q. In addition to doing the visual  
12 inspection of the helmet and the imaging studies,  
13 did you make an assessment of what and was not  
14 damaged?

15 A. Yeah. I think, as I just discussed,  
16 what parts of the helmet were loaded, which parts  
17 had ground contact features, which did not.

18 Q. Did you then map the damage with respect  
19 to the CT scan?

20 A. I did. So I took both the exemplar  
21 helmet and the damaged helmet, and I lined them  
22 up.

23 Q. Okay. What I want to do is show you the  
24 next exhibit, 609, which is, I believe, a video.

25 A. Yeah. This is a video of essentially

009485

1 the results of a high-resolution CT scan.

2 Q. So you have a video of the results of  
3 the CT scan?

4 A. Correct.

5 Q. Is that what it is?

6 A. So you can see what the helmet is  
7 supposed to look like before it's deformed.

8 Q. All right. This is a helmet before it's  
9 deformed; correct?

10 A. Right. This is an exemplar undamaged  
11 helmet.

12 Q. Okay. Now, there is a still shot of  
13 that, which is, I believe, 609A. That would be  
14 that; right?

15 A. Correct.

16 Q. Okay. Now, I want you to look at the  
17 video at 610 and tell us what was done here. Now,  
18 what helmet is that?

19 A. This is the high-resolution CT image of  
20 the helmet that we're looking at right over here,  
21 Dr. Khiabani's helmet.

22 Q. So the first one was a brand-new, normal  
23 helmet, undamaged?

24 A. Same make and model that we obtained and  
25 we had scanned, correct.

009486

1 Q. This one is of the actual helmet being  
2 worn?

3 A. It is.

4 Q. All right. And this is Exhibit  
5 Video 610.

6 What are you showing there?

7 A. I wasn't sure if I was going to have the  
8 subject helmet here to show the jury. I used the  
9 CT scan to demonstrate those same features.

10 If you let that roll. And go ahead and  
11 play it again, if you would. Pause.

12 Q. So this is a CT scan of that actual  
13 helmet?

14 A. It is. It is. And you can see in this  
15 view -- you know, it's helpful to be able to look  
16 at it using imagery. You can see -- pause a  
17 second -- the right-side crease and there's a lot  
18 of damage to the liner in that area.

19 Then if you let it roll, and then pause  
20 it when the back is towards us. There you go.  
21 You can see that same dimpling features that I  
22 showed you with the subject helmet. Those are on  
23 the back, a little bit back left, but if you keep  
24 rolling and pause again, they are not present over  
25 here on the left-hand side.

009487

1 Q. Okay. And we've discussed that --

2 A. We have.

3 Q. -- with the actual helmet.

4 Video Exhibit 611, show us what you were  
5 trying to demonstrate here with the CT scan.

6 A. So in order to understand how  
7 Dr. Khiabani's helmet interacted with the tire, I  
8 needed to untangle a little bit the physical  
9 evidence. That helmet is really distorted at this  
10 point. I think you can all see that.

11 So what I wanted to do is compare the  
12 damaged helmet and its features to an undeformed  
13 helmet so I could get at the head position and the  
14 helmet position when it first interacted with the  
15 coach.

16 And this is an overlay. The white is  
17 the exemplar helmet. The orangish color is the  
18 damaged helmet.

19 Q. Let me see if I can understand what  
20 you've done. The white helmet is the undamaged  
21 helmet?

22 A. Correct.

23 Q. And the -- I would call it the cream or  
24 yellow-colored is the damaged helmet?

25 A. Yeah. You can see that they're pretty



1 similar on the left-hand side. There isn't a lot  
2 of distortion. There's a big difference on the  
3 right-hand side. There's a big difference at the  
4 back of the helmet.

5 Q. And what were you just trying to show  
6 with that video?

7 A. Just to give myself and anybody who's  
8 looking an understanding of what the damage looks  
9 like.

10 Q. Now, the next video exhibit is 612. Is  
11 that the next one?

12 A. It is.

13 Q. All right. And what are you doing  
14 there? Are you still using an exemplar and the  
15 actual physical helmet?

16 A. I am. And I'm using that to provide a  
17 comparison. If you'd pause.

18 Now we're looking down into the left  
19 side of the helmet. This is the left side of the  
20 helmet in this region. And you can see, just  
21 based on the surface features, that there's a lot  
22 of similarity between the undamaged helmet and the  
23 damaged helmet. But if you let it play, the  
24 right-hand side of the helmet has got some big  
25 deviations.

009489

1           Pause, if you would.

2           You can see there's a big deviation.  
3   It's been distorted inward a lot. The back of it  
4   is pointing outward. It's been folded and  
5   distorted.

6           So I'm just using these tools to  
7   demonstrate the nature of the damage.

8           Q. All right. Now, you've prepared a  
9   slide, Exhibit 613. And I want to ask you what is  
10  the purpose that you want to use this slide for to  
11  show the jury?

12          A. I wanted to show the jury the nature of  
13  the damage.

14               This is the right-hand side of the  
15  helmet. The way that the right-hand side of the  
16  helmet is deformed, it's deformed towards the  
17  back. It's not deformed across towards the  
18  opposite side.

19               This left-hand side is not crushed.  
20  There's no dimples over there. The load vector  
21  that this settlement saw was front to back and  
22  right to back.

23          Q. And the white is the new helmet?

24          A. It's the undamaged helmet, that's right.

25          Q. And, again, the cream or yellow color is

009490

1 the damaged helmet?

2 A. Correct.

3 Q. All right. Now, we've discussed -- do  
4 you need to show the jury any more from the actual  
5 helmet at this point in time? We've discussed  
6 what you need to discuss. Okay.

7 So let's go to Exhibit 615. What is  
8 Exhibit 615, and what are you trying to show  
9 there?

10 A. This is the -- a scan of the exemplar  
11 undamaged helmet. I've made marks on a physical  
12 helmet, and we also made them on this one inside  
13 the computer to show where there's damage and show  
14 where there's not.

15 There's little abrasions over here. But  
16 this green is the area where we've got the pock  
17 marks and the dimples on the helmet.

18 So I'm just mapping those surface  
19 features, and I'm going to bring this exemplar  
20 damaged helmet into a computer modeling  
21 environment where I've got the geometry of our  
22 subject motor coach, I've got the geometry of the  
23 tire, I've got the shape of the sidewall because I  
24 scanned it. And I'm going to orient this until I  
25 can match the damage on the helmet up to the

009491

1 geometry of the bus and its tire.

2 Q. Okay. Now, is there a second page to  
3 that Exhibit No. 615?

4 A. It is. It's just more of just showing  
5 the areas -- these are the regions that are in  
6 green where we've got that dimpling. The part of  
7 the helmet that was against the asphalt is the  
8 area where we've got the green markings.

9 Q. Do you have that exemplar helmet here?

10 A. I do have an exemplar helmet that I  
11 physically did this with tape and a marker on.

12 Q. Can you, at this point, take that out?

13 A. Sure.

14 Q. And that, for the record, is Exhibit  
15 No. --

16 A. 614A.

17 Q. 614A?

18 A. Correct.

19 Q. And I need to check something. Let me  
20 check something with Eric.

21 MR. BARGER: Your Honor, 614A is for  
22 demonstrative purposes, and he's going to show the  
23 jury where he did the marking.

24 THE COURT: Correct.

25 THE WITNESS: So this is the right

009492

1 side --

2 BY MR. BARGER:

3 Q. Let me hold your microphone for you.

4 A. -- right side of the helmet as if worn  
5 like so. And I've marked that crease that's on  
6 the right-hand side back to the undeformed helmet.  
7 I put a tape on here and making measurement and  
8 comparison to the photos and showing where that  
9 is.

10 On the back of the helmet, I've put  
11 little dots with my Magic Marker on the tape to  
12 show where the dimpled areas are, show which areas  
13 of the helmet were actually in contact with the  
14 ground.

15 And I physically used this to say, well,  
16 wait a minute. How can that work? How can that  
17 be engaged by the sidewall of the tire? Could it  
18 be like this?

19 Well, if the tire came over there, it  
20 could make a line across there, but what would  
21 happen with the bottom of the helmet? The bottom  
22 of the helmet would be against the asphalt. It  
23 would have dimples. It would be smashed. That  
24 can't be the result, then.

25 So you enter whatever you worked to map

009493

1 this damage into a geometry that's consistent with  
2 the damage on the helmet and the geometry of the  
3 tire of the bus.

4 That's what I used this for. That's  
5 what I used the digital exemplar for.

6 Q. Did you do that?

7 A. I did.

8 Q. All right. So you can put that back in  
9 the box.

10 And when you did that, what results did  
11 you conclude?

12 A. I concluded that the overlap between the  
13 MCI bus tire and this helmet was very narrow. It  
14 was actually less than an inch.

15 Q. Okay. And is that contrary to what  
16 Dr. Stalnaker did?

17 A. It is very much contrary to what  
18 Dr. Stalnaker testified to and what he -- what he  
19 described in his report and his deposition.

20 Q. Okay. So tell the jury the difference  
21 between what you did and what you showed and what  
22 Dr. Stalnaker did.

23 MR. BARGER: And I think we can use,  
24 Your Honor, the actual helmet which is marked.

25 THE COURT: That's fine.

1 THE WITNESS: You're asking me the  
2 difference in process?

3 BY MR. BARGER:

4 Q. Absolutely. What's the difference  
5 between -- is Dr. Stalnaker right, in your  
6 opinion?

7 A. He's absolutely not right.

8 Q. Okay. Would you explain to the jury why  
9 you have an opinion why he's not correct about the  
10 tire running 5 to 6 inches over the helmet?

11 A. Yeah. So I'm going to try and do this  
12 in a geometry that makes sense.

13 Q. Let me hold the microphone.

14 A. So Dr. Stalnaker has said that the  
15 helmet was overrun.

16 If we're visualizing the tire coming  
17 along here, I'm to the outside of the bus and  
18 you're to the inside. He's saying that this area  
19 was overlapped by the tire and crushed. So if you  
20 have a force applied here, it's applied through  
21 the head to the ground, that means that there's a  
22 reaction force. This is Newton's third law, for  
23 every action there's an equal and opposite  
24 reaction.

25 So the bus tire loads here. It loads

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1 down into the head. The head loads in the helmet.  
2 The helmet loads into the ground. This whole  
3 sandwich top to bottom has got to see a whole  
4 bunch of load associated with a very massive bus.

5 That means we should have damage here,  
6 which we do, but we should also have damage down  
7 there on the bottom of the helmet. We should have  
8 dimpling from the asphalt. We should have crushed  
9 the EPS liner. We did not. It's not smashed.  
10 It's not dimpled. That is not right.

11 Q. Now, that helmet you're looking at is  
12 the exemplar; right?

13 A. This is an exemplar.

14 Q. So take the actual helmet and show them.

15 Dr. Stalnaker, when I was examining  
16 him -- when I was examining Dr. Stalnaker, we had  
17 him put some tape over where he said the tire ran  
18 over the top of this helmet. Okay? You see the  
19 black tape there?

20 A. Yeah. And not so much top, but side to  
21 side, as I understood the testimony.

22 Q. Right. Okay. And he said it was 5 to 6  
23 to 7 inches?

24 A. That's what I saw in his testimony.

25 Q. How could that not be possible?



1           A.    Well, if you had 5 or 6 or 7 inches of  
2 overlap -- I'm drawing -- I'm using this pointer  
3 just to lay it across here. This is where  
4 Dr. Stalnaker has the tape. I didn't see him put  
5 it on there, but I'll give him the benefit of the  
6 doubt that we'll go to this side of the line.

7                   I'm going to try to align that with the  
8 rail here.

9                   That means that everything on your side  
10 of my pointer was exposed to the mass of the tire  
11 of the bus. So you've got a huge force acting  
12 here. We do have damage there. We have the head  
13 in between, but down here on the left-hand side of  
14 the helmet, which is still underneath all of that,  
15 it's going to be pressing in the asphalt. And you  
16 don't see those asphalt impressions over there on  
17 the left-hand side.

18                  And if I turn this, if that theory were  
19 true, this area in here should be smashed. The  
20 EPS liner in here should be smashed. It is not  
21 smashed. This material is sufficiently soft that  
22 I can take the exemplar and squeeze it with my  
23 hand. It is meant to get smashed before your  
24 head -- before your skull is fractured. It's  
25 meant to prevent head injury.

009497

1           So to have a head injury, a pretty  
2 devastating pattern skull fracture, without  
3 deforming the liner does not make any sense. Any  
4 load that would be applied here would be  
5 transmitted through the head and would be  
6 transmitted to the opposite side and would create  
7 damage over here.

8           Q. We'll talk about the load of this  
9 38,000-pound bus in a minute. But if he's correct  
10 that 5 to 6 to 7 inches of the tire ran over the  
11 side and top of this helmet, what would you expect  
12 to have seen rather than this?

13          A. I'd expect both sides of the helmet to  
14 be destroyed. I'd expect to have asphalt dimples  
15 over here where the blue sticky is. There's no  
16 asphalt imprints. There's no damage to the liner.

17                 Instead, we have something more  
18 complicated. We have markings from tire tread  
19 block here, and we have the asphalt back in the  
20 back.

21                 This is a head that's not in a simple  
22 orientation that Dr. Stalnaker had described for  
23 you. It's turned, and the ultimate overlap is  
24 much less. It's less than an inch.

25          Q. Okay. Dr. Stalnaker's opinion and

1 alignment, is it consistent with what you actually  
2 see in the helmet?

3 A. No, absolutely not.

4 Q. All right. So what is your conclusion  
5 after looking at Dr. Stalnaker's alignment?

6 A. It's wrong.

7 Q. Let's go to the helmet alignment  
8 analysis that you did. Okay.

9 A. Okay.

10 MR. BARGER: May I ask Mr. Pepperman  
11 something real quick?

12 THE COURT: Certainly.

13 (Discussion off the record.)

14 MR. BARGER: Your Honor, I'm going to  
15 show -- and I've talked to Mr. Pepperman. I'm  
16 going to show my Exhibit 616. It is offered as a  
17 demonstrative at this point in time.

18 THE COURT: Okay.

19 MR. BARGER: And I want to look at my  
20 note to confirm that, if I may.

21 THE COURT: I have it as a  
22 demonstrative.

23 MR. BARGER: Okay. So I'm fine.

24 BY MR. BARGER:

25 Q. If you'll put 616 on and tell us what

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1 this is.

2 A. This is some digital modeling work that  
3 I did to evaluate the idea or Dr. Stalnaker's  
4 opinion about the left side being against the  
5 ground, the right side up. And I'm looking at  
6 what part of the helmet -- again, using the  
7 digital model -- would be in contact with the  
8 ground and what part would be in contact with the  
9 tire.

10 Q. So this is -- is this what Dr. Stalnaker  
11 says happened?

12 A. It's my understanding of what he  
13 described in his report. And, now, I know that at  
14 the time of trial he said 5, 6, and 7 inches of  
15 overlap. I didn't depict 5, 6, and 7. I depicted  
16 a left side to the ground with the overlap that I  
17 observed in his report.

18 Q. Okay. And his report said what?

19 A. It didn't say. I used one of the  
20 images.

21 Q. And what did you use?

22 A. It's about 4 inches.

23 Q. Okay. Not 5, 6, or 7, as he testified  
24 to at trial?

25 A. Correct.

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