

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.

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**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 First of all, did I read that right?

2 A. I'm sorry. Could you read it again.

3 Q. "The rotating" -- here. Why don't you read  
4 it? Just start with "the rotating wheel." We'll get  
5 it into the record right.

6 A. Okay.

7 "The rotating wheel of the bus or any large  
8 vehicle will create a low pressure between the cyclist  
9 or the pedestrian that is vastly different than just a  
10 motor vehicle passing the individual."

11 Q. And the next sentence?

12 A. "As a result, there is a greater potential  
13 for the cyclist or pedestrian to be pulled into the  
14 motor vehicle body."

15 Q. Okay. Now, this is a more specific statement  
16 of the same point that you and I discussed previously,  
17 that there would be some sort of suction; right?

18 A. Okay.

19 Q. And this is the first time you've been aware  
20 of this potential phenomena?

21 A. Yes.

22 Q. It is a phenomena?

23 A. Yes.

24 Q. Okay. And so can I assume that you've never  
25 discussed this potential phenomena, rotating wheels

1 creating a low pressure suction that pulls people into  
2 the bus wheels? Can I assume you've never discussed it  
3 with any customers at any time?

4 A. Yes. I have not discussed it.

5 Q. Okay. All right. Now -- okay. Strike that.  
6 All right. Do you sell Setra 500s now or no?

7 A. No. No.

8 Q. Now, as I understand it -- and correct me if  
9 I'm wrong -- MCI has some sort of relationship with  
10 Setra at present, or do you know?

11 A. Yes.

12 Q. Okay. What is your understanding of the  
13 relationship?

14 A. It is a distribution agreement.

15 Q. And do you know when that started?

16 A. About five years ago.

17 Q. So sometime in 2011, '12, or '13?

18 A. Yeah. It's about five years ago. I don't  
19 know the exact.

20 Q. Okay. And with regards to the distribution  
21 agreement, do you know the general parameters of it?

22 A. Yes.

23 Q. What are the general parameters?

24 A. That we sell and support the Setra model  
25 specific to the U.S. market.

1 Q. And when you say "we," does the  
2 Los Angeles -- or rather the regional sales office of  
3 the southwest region offer Setras for sale?

4 A. Yeah, when I say "we," I mean MCI.

5 Q. Okay. MCI sells them, but do you sell them  
6 out of the Los Angeles office too?

7 A. Yes.

8 Q. Have you personally sold any Setras?

9 A. Yes.

10 Q. And how many, roughly?

11 A. Roughly? 30.

12 Q. 30 a year or 30 over --

13 A. 30 over the five years.

14 Q. And there's a Setra S407; right?

15 A. Correct.

16 Q. Have you sold the Setra S50 -- 407?

17 A. Yes.

18 Q. And have you also sold the Setra 500?

19 A. No.

20 Q. Okay. Is that available to you to sell at  
21 present?

22 A. No.

23 Q. Okay. All right. Why don't we take a look  
24 at Exhibit 28.

25 MR. BARGER: He's got it.

1 BY MR. KEMP:

2 Q. Okay. Exhibit 28 is an announcement from  
3 Setra dated 2011. And if you flip to the back, they  
4 say in the second full paragraph, the American version,  
5 the S417, was presented for the first time in 2003.

6 A. Uh-huh.

7 Q. You see that statement?

8 A. Yes.

9 Q. Is that consistent with your understanding of  
10 when the Setra S417 came onto the market?

11 A. Yes.

12 Q. Okay. Did you receive any specific training  
13 with regards to the Setra before you sold it?

14 A. No.

15 Q. Okay. And what is your understanding of the  
16 differences, if any, between the Setra 417 and the  
17 J4500?

18 A. The Setra 417 is marketed as a high-end  
19 luxury coach.

20 Q. Okay. And why -- how does that compare to  
21 the J4500?

22 A. The Setra has a lot more passenger amenities,  
23 like leather. They make their own seat, that kind of  
24 thing.

25 Q. So would the J4500 be a lower-end coach?

1 A. Yes.

2 Q. And how would you describe it in terms of  
3 low, medium, high?

4 A. As far as -- can you clarify what you're  
5 asking?

6 Q. Okay. You described the Setra as a  
7 high-end --

8 A. Yes.

9 Q. -- motor coach; correct?

10 A. Well, the 417, yes.

11 Q. Yes. So would the J4500 be a low-end motor  
12 coach, a medium-end motor coach, or what?

13 A. It would be -- the 417 is, I'd say, the  
14 high-end vehicle. The J coach is maybe a notch below  
15 that, but it's not a low-end coach; it's a tour coach.

16 Q. What would be a low-end coach? What would be  
17 a low-end coach?

18 A. It would be the 407 for Setra.

19 Q. An S407 would be a low-end coach?

20 A. Well, they call it a business class.

21 Q. Okay.

22 A. I mean, it kind of depends what you mean by  
23 low end. I mean, you could go lower than that, but we  
24 don't sell stuff like that.

25 Q. Okay. And, more specifically, do you know

1 what a proximity sensor is?

2 A. I think so.

3 Q. Okay. A device that shoots out radar or  
4 sonar and attempts to detect vehicles in front or to  
5 the side of it?

6 A. Okay.

7 Q. That's -- is that what your understanding of  
8 what a proximity sensor is?

9 A. Yes.

10 Q. Why don't we look at Exhibit No. 25 just to  
11 get it out of the way.

12 MR. BARGER: He's got it.

13 BY MR. KEMP:

14 Q. Hang on a second. I haven't given counsel a  
15 copy of the exhibits, which -- which is not good  
16 because then I have to carry them all back.

17 Great. Let me give you 22.

18 Okay. All right. Handing you a copy of a  
19 brochure dated July 2012 on the Setra ComfortClass 500.

20 A. Yes.

21 Q. First of all, are you generally -- are you  
22 generally familiar with this vehicle?

23 A. No, I'm not.

24 Q. But if I went into the sales office, in  
25 theory, I could buy one from the L.A. sales office;

1 right?

2 A. No.

3 Q. You're not distributing this?

4 A. No.

5 Q. Okay. All right. Flip over to page 4,  
6 please.

7 A. Okay.

8 Q. Do you see the title where it says  
9 "aerodynamics styling lowers fuel consumption"?

10 A. Uh-huh. Yes.

11 Q. Yes?

12 All right. And it talks about a 20 percent  
13 reduction in aerodynamic drag. Do you see that?

14 A. Yes.

15 Q. And it talks, four lines down, about a drag  
16 coefficient of .33?

17 A. Yes.

18 Q. As we sit here today, you don't know how the  
19 Setra 500 would compare to a J4500; correct?

20 A. Correct.

21 Q. In other words, you don't know whether or not  
22 the Setra 500 would be more aerodynamic, the J4500  
23 would be more aerodynamic, or who would have a greater  
24 or lesser drag coefficient?

25 A. No, I don't know.



1 Q. Okay. Let's flip over to Exhibit No. 2, and  
2 I direct your attention to the very bottom, where it  
3 says "name of salesperson" and it has your name there.

4 A. Yes. Yes.

5 Q. In general, do you recognize this form of  
6 document?

7 A. Yes.

8 Q. Okay. What's the date of the agreement?

9 A. September 4th, 2007.

10 Q. Okay. Now, when I look at this -- well,  
11 strike that.

12 Do you remember anything about this  
13 transaction other than what you're seeing in the  
14 documents?

15 A. I don't.

16 Q. Now, earlier, I asked you if you had  
17 communicated with any customer about the subject of air  
18 blast potential, and you said no.

19 Remember that testimony?

20 A. Yes.

21 Q. Yes?

22 Okay. Would I be correct that you did not  
23 have any communications with Mr. Haggerty during any  
24 one of these 50 bus sales about the potential for air  
25 blasts, if any, from the J4500?

1 A. Yes, you're correct.

2 Q. And same question about the rear tires  
3 sucking in. You didn't have any communications with  
4 him about that subject either; correct?

5 A. Correct, no communications.

6 Q. Okay. Now going back to the Exhibit No. 2,  
7 if you take a look at page 9, paragraph 15, there is a  
8 warning there. You see that?

9 A. Page 9? Oh, MCI 9. Okay.

10 Yes.

11 Q. And the warning says, "This vehicle may  
12 contain HCFC R-134A refrigerant, a substance which  
13 harms public health and the environment by destroying  
14 ozone in the upper atmosphere."

15 Did I read that right?

16 A. Yes.

17 Q. And that is the only warning I see in  
18 Exhibit 2. Do you see any other warning?

19 A. No.

20 Q. Do you think, assuming that there is a hazard  
21 from air blast or the suction of the rear wheels like  
22 we've seen in exhibit -- like we've seen and discussed  
23 in Exhibit 26, do you think it would be a good idea to  
24 provide a warning to that effect in the sales  
25 documentation?

1           A.    I don't know. I don't know enough to know.

2           Q.    Okay. Any downside you can think of as we  
3 sit here today to providing that warning?

4           A.    I -- I -- I don't know.

5           Q.    Okay. Well, your family owns a tour company  
6 and you drive buses and you've sold them for 20 years,  
7 and you didn't know about these two potential hazards;  
8 correct?

9           A.    Correct.

10          Q.    You think it's a good idea to get that  
11 information out there to the tour and bus community?

12          A.    You know --

13               MR. BARGER: Form. Form.

14               You can answer.

15               THE WITNESS: Yeah, I honestly don't know  
16 enough about what it is to know -- to make a  
17 decision -- to make a decision.

18 BY MR. KEMP:

19          Q.    Okay. And if we take a look back at  
20 Exhibit 1, the date of the transaction was -- well, I  
21 don't know if that has a date on it.

22               Yeah, the date of the transaction is  
23 September 20th, 2007; correct?

24          A.    That's the correct date, yes.

25          Q.    But it's described as a 2008 bus even though

1 it's a 2007?

2 A. Yes.

3 Q. Right?

4 Is that kind of the same thing they do in the  
5 car industry, in fall they bring the new models out?

6 A. Yeah. Yes, sir.

7 Q. Okay. So if I bought a new bus in 2008, I'd  
8 be getting a 2009?

9 A. You may. Depending on when you bought it,  
10 you might get a 2008 or a 2009.

11 Q. In your lifetime, you've bought products  
12 before, like hairdressers and appliances and washers  
13 and cars, right, things of the sort?

14 Yes?

15 A. Yes.

16 Q. And you're kind of familiar with the concept  
17 that manufacturers provide safety information; right?  
18 Sometimes, some manufacturers do?

19 A. Safety information, like -- what do you mean?

20 Q. To the consumer. Safety information about  
21 the product. You're familiar in general with that  
22 concept?

23 A. Yes. Safety, yes.

24 Q. Okay. All right. Does MCI provide any sort  
25 of safety information, other than what we may see here

1 in Exhibit 27, to purchasers?

2 A. I don't know of anything beyond manuals.

3 (Video concluded.)

4 MR. PEPPERMAN: That concludes Mr. Dorr, Your  
5 Honor.

6 THE COURT: Very good.

7 MR. CHRISTIANSEN: Judge, plaintiff doesn't  
8 have any additional that could be completed in the  
9 allotted time frame, so maybe this is a good time to  
10 break for the evening.

11 THE COURT: I would just like to talk to you  
12 about timing.

13 MR. CHRISTIANSEN: Okay. Your Honor should  
14 we approach?

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

17 THE COURT: All right. Ladies and gentlemen,  
18 I want to thank you for your attention and your  
19 dedication today. Going to give you the admonishment.  
20 I should know it by heart, but I don't. Okay.

21 You're instructed not to talk with each other  
22 or with anyone else about any subject or issue  
23 connected with this trial. You are not to read, watch,  
24 or listen to any report of or commentary on the trial  
25 by any person connected with this case or by any medium

1 of information, including, without limitation,  
2 newspapers, television, the internet, or radio.

3           You are not to conduct any research on your  
4 own relating to this case, such as consulting  
5 dictionaries, using the Internet, or using reference  
6 materials.

7           You are not to conduct any investigation,  
8 test any theory of the case, re-create any aspect of  
9 the case, or in any other way investigate or learn  
10 about the case on your own.

11           You are not to talk with others, text others,  
12 tweet others, google issues, or conduct any other kind  
13 of book or computer research with regard to any issue,  
14 party, witness, or attorney involved in this case.

15           You're not to form or express any opinion on  
16 any subject connected with this trial until the case is  
17 finally submitted to you.

18           Have a great evening, and see you tomorrow at  
19 1:00 p.m. Thank you.

20           THE MARSHAL: All rise.

21                   (The following proceedings were held  
22                   outside the presence of the jury.)

23           THE COURT: Okay. Any -- anything else? You  
24 may remain seated. Or I know you were getting ready to  
25 go, but anything else we need to discuss?

1 Housekeeping? Timing?

2 MR. PEPPERMAN: Yes, Your Honor. On the --  
3 the Barron, Mark Barron, deposition designations.

4 THE COURT: Yes.

5 MR. PEPPERMAN: We've gone through. As I  
6 said earlier, we've agreed on the contents of  
7 everything except one small issue. We've cut the clip  
8 summary, and that includes everything that we've agreed  
9 on in. It's not in the perfect order. It needs to be  
10 cleaned up a little bit still, but I can print out what  
11 we have and give that to you and highlight the areas --

12 THE COURT: That's great.

13 MR. PEPPERMAN: -- that are at issue so you  
14 can review that. And then any quick ruling on that one  
15 issue, we can leave it in or take it out depending on  
16 the Court's ruling, and then that one will be ready to  
17 play.

18 THE COURT: Great. That way I can review it  
19 this evening when I'm reviewing my calendar.

20 MR. PEPPERMAN: Yes. So just give me a  
21 couple of minutes to --

22 THE COURT: Not a problem. I'm not going  
23 anywhere. I will be here for several hours.

24 MR. PEPPERMAN: And I will leave that with  
25 you before we leave.

1 THE COURT: Thank you.

2 MR. PEPPERMAN: And I will provide a copy to  
3 counsel.

4 THE COURT: Anything else?

5 MR. CHRISTIANSEN: No, Your Honor.

6 THE COURT: Okay. Very good.

7 MR. TERRY: May we be excused?

8 THE COURT: Yes, you may.

9 MR. ROBERTS: Thank you, Judge. Have a good  
10 evening.

11 THE COURT: Have a great evening.

12 (Thereupon, the proceedings  
13 concluded at 4:42 p.m.)  
14  
15  
16

17 -oOo-

18  
19 ATTEST: FULL, TRUE, AND ACCURATE TRANSCRIPT OF  
20 PROCEEDINGS.  
21  
22

23   
24 \_\_\_\_\_

25 KRISTY L. CLARK, CCR #708



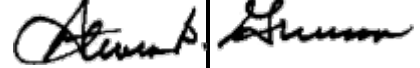
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Steven D. Grierson

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 THURSDAY, MARCH 8, 2018

25 RECORDED BY: SANDY ANDERSON, COURT RECORDER

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

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3 Kayvan Khiabani, M.D.:

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007267

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## I N D E X

Witness:	Direct:	Cross:	Redirect:	Recross:
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KEON KHIABANI (via video)	6			
MARIE-CLAUDE RIGAUD (via video)	26			
MARK BARRON (via video)	65	104	122	131

## E X H I B I T S

Number	Admitted
Ex. 81A	65

007268

1 LAS VEGAS, NEVADA, THURSDAY, MARCH 8, 2018;

2 1:13 P.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 MARSHAL: Please be seated. Come to  
8 order. Department 14 is in session.

9 THE COURT: Good afternoon.

10 (The following proceedings were held  
11 in the presence of the jury.)

12 THE MARSHAL: All rise. All the jurors  
13 are present, Your Honor.

14 Please be seated. Come to order.

15 THE COURT CLERK: Yes, Your Honor.

16 Byron Lennon.

17 JUROR NO. 1: Here.

18 THE COURT CLERK: John Toston.

19 JUROR NO. 2: Here.

20 THE COURT CLERK: Michelle Peligro.

21 JUROR NO. 3: Here.

22 THE COURT CLERK: Raphael Javier.

23 JUROR NO. 4: Here.

24 THE COURT CLERK: Dylan Domingo.

25 JUROR NO. 5: Here.

007269

1 THE COURT CLERK: Aberash Getaneh.

2 JUROR NO. 6: Here.

3 THE COURT CLERK: Jaymi Johnson.

4 JUROR NO. 7: Here.

5 THE COURT CLERK: Constance Brown.

6 JUROR NO. 8: Here.

7 THE COURT CLERK: Enrique Tuquero.

8 JUROR NO. 9: Here.

9 THE COURT CLERK: Raquel Romero.

10 JUROR NO. 10: Here.

11 THE COURT CLERK: Pamela Phillips-Chong.

12 JUROR NO. 11: Here.

13 THE COURT CLERK: Gregg Stephens.

14 JUROR NO. 12: Here.

15 THE COURT CLERK: Glenn Krieger.

16 JUROR NO. 13: Here.

17 THE COURT CLERK: Emilie Mosqueda.

18 JUROR NO. 14: Here.

19 MR. TERRY: Parties stipulate to the  
20 presence of the jury, Your Honor.

21 THE COURT: Thank you.

22 MR. KEMP: Your Honor, we'd call Keon  
23 Khiabani by video.

24 (Video played.)

25

007270

1 DIRECT EXAMINATION OF KEON KHIABANI

2 BY MR. CHRISTIANSEN:

3 Q. Could you state your name and spell it  
4 for the record for me.

5 A. Yes. Keon Khiabani. K-e-o-n,  
6 K-h-i-a-b-a-n-i.

7 Q. Keon, how old are you?

8 A. 14.

9 Q. What's your birthday?

10 A. May 8, 2003.

11 Q. And where were you born, Keon?

12 A. Las Vegas, Nevada.

13 Q. Are you an American citizen?

14 A. Yes.

15 Q. Have you resided here in Las Vegas your  
16 whole life until you relocated to Montreal?

17 A. Yes.

18 Q. Who are your parents?

19 A. Babak and Marie-Claude.

20 Q. Those are your guardians now?

21 A. Yes.

22 Q. Back in January of 2017, who were your  
23 parents?

24 A. Katy Barin and Kayvan Khiabani.

25 Q. Have you ever had your deposition taken

007271

1 before?

2 A. No.

3 Q. All right. This is just an informal  
4 setting. I don't have a tie on. Right? Nobody  
5 else has ties on. But the oath you took that the  
6 nice court reporter gave you is the same oath you  
7 would take if you were testifying in front of a  
8 judge or a jury.

9 Do you understand that?

10 A. Yeah.

11 Q. And you have an obligation to tell the  
12 truth. Okay?

13 A. Okay.

14 Q. All right. Where were you in school in  
15 January of 2017?

16 A. Alexander Dawson.

17 Q. In January of 2017 -- this year, you  
18 were in Alexander Dawson?

19 A. No. Clark High School.

20 Q. All right. Why don't you do this for  
21 me. Where did you start school here in Las Vegas?  
22 Where is the first place you went?

23 A. Meadows.

24 Q. Was that for pre-K?

25 A. Yeah, pre-K.

007272



1 Q. And then where did you go from there?

2 A. I went to Merryhill from kindergarten to  
3 third grade.

4 Q. Keep going.

5 A. Then Dawson from 4th to 8th and then  
6 Clark High School.

7 Q. You're in 9th grade?

8 A. Yeah.

9 Q. Okay. And if we use the watermark of  
10 your -- the day your mom passed was October the  
11 12th; is that right?

12 A. Yes. Yes.

13 Q. Within a few days, where did you move  
14 to?

15 A. Montreal, Canada.

16 Q. And who did you move there with?

17 A. Babak and Marie-Claude.

18 Q. Who is Babak to you? Before he was your  
19 guardian, who was he to you?

20 A. My uncle.

21 Q. Your mom's big brother?

22 A. Yeah. My mom's big brother, yeah.

23 Q. And what does Babak do in Montreal?

24 A. He's a judge.

25 Q. And Marie-Claude is your aunt?

007273

1 A. Yes.

2 Q. And what does she do in Montreal?

3 A. She's a professor.

4 Q. Before your mom passed away, did she go  
5 over with you what her desires were should she not  
6 survive her cancer relative to you and your  
7 brother?

8 A. Can you say that again?

9 Q. Sure. Did your mom tell you what she  
10 thought -- or who she wanted to care for you and  
11 Aria should she pass? Did she talk to you about  
12 that?

13 A. Yeah, she did. Yes.

14 Q. Did you actually go over a document with  
15 her?

16 A. Yes.

17 Q. I'm going to show you what we've marked  
18 as Exhibit 1. We've taken out some addresses and  
19 private stuff.

20 A. Okay.

21 Q. Is this -- is that your mom's signature  
22 on page 3?

23 A. Yep.

24 Q. And then on page 4, there's a couple  
25 more signatures. Who are those?

007274

1 A. My brother, me, and the witnesses.

2 Q. Looks like Babak and MC?

3 A. Yeah. Babak and MC, yeah.

4 Q. MC is shorthand for Marie-Claude?

5 A. Yeah.

6 Q. Before your mom signed this document,  
7 what we're calling Exhibit 1 today, did she go  
8 through all of these different things with you and  
9 your brother?

10 A. Yes.

11 Q. Did you understand that your mom desired  
12 you and your brother to be raised by your aunt and  
13 uncle, Babak and Marie-Claude?

14 A. Yes.

15 Q. And did you understand your mom wanted  
16 you to domicile or reside in Montreal, Canada?

17 A. Yes.

18 Q. And you're an American citizen?

19 A. Yes.

20 Q. And you were born here in Las Vegas, and  
21 you've been through all the schooling, pre-K  
22 through 9th grade -- or the middle of 9th grade  
23 here in Las Vegas?

24 A. Yes.

25 Q. Did you relocate -- when you moved to

007275

1 Montreal, Canada, who do you live with?

2 A. Babak and Marie-Claude.

3 Q. Do they have kids?

4 A. Yes. Four.

5 Q. Bigger or smaller than you?

6 A. There's one bigger, and then the rest  
7 are smaller than me.

8 Q. What are the age ranges?

9 A. From 6 to 15.

10 Q. And who else besides yourself and  
11 Marie-Claude and Babak and their four children  
12 live at that house? Your brother?

13 A. Yes, my brother. And a foreign exchange  
14 student.

15 Q. Got it. In fact, this weekend are they  
16 making some changes to the house so that you and  
17 your brother have your own rooms?

18 A. Yes.

19 Q. Is it your intent to live there to  
20 complete high school with your aunt and uncle?

21 A. Yes.

22 Q. Do you have anybody here in Las Vegas  
23 able to take care of you, provide parental  
24 control, care, and guidance?

25 A. No. No.

007276

1 Q. All your family is now in Montreal or  
2 elsewhere?

3 A. Yes.

4 Q. Nobody is left here in Las Vegas?

5 A. No.

6 Q. Did your mom know all that when she  
7 signed this affidavit September the 30th?

8 A. Yes.

9 Q. And does this affidavit, from your  
10 perspective, reflect what your mom wanted to  
11 happen to you and your brother should she pass?

12 A. Yeah.

13 Q. And you actually signed it saying you  
14 understood that's what she wanted; is that fair?

15 A. Yep.

16 Q. Okay. All right, Keon. Let's go back  
17 to January of this year. Do you remember finding  
18 out that your mom was sick?

19 A. Yes.

20 Q. Tell me what you remember.

21 A. I remember she called me up to her room  
22 one day, and then she told me she's, like, she's  
23 really sick, and she told me that she has, like,  
24 stage 4 cancer.

25 Q. Do you recall your mom starting to get

007277

1 treatment for her cancer after she told you?

2 A. Yeah.

3 Q. And who would take her for her  
4 treatment?

5 A. My dad would always take her.

6 Q. Okay. By way of background, what did  
7 your dad do for a living?

8 A. He was a surgeon.

9 Q. Here in Las Vegas?

10 A. Yes.

11 Q. What kind of surgeon?

12 A. Plastic surgeon.

13 Q. And how about your mom? What did Katy  
14 do?

15 A. She's a dentist.

16 Q. Did she have a dental practice up in  
17 Summerlin?

18 A. Yes.

19 Q. So when your mom gets sick, is your dad  
20 taking care of her?

21 A. Yes.

22 Q. And from your perspective, as her  
23 younger son, how was she doing before your dad  
24 passed away? Was she getting better?

25 A. Yeah. She was doing really good before

007278

1 my dad passed away.

2 Q. Tell me about your relationship with  
3 your mom.

4 A. We were very, very close. Like, yeah,  
5 we were really close to each other. Yeah.

6 Q. Okay. And when she got sick, did that  
7 scare you?

8 A. Yeah, it did.

9 Q. Where were you when you learned that  
10 something had happened to your father? And that  
11 was April the 18th.

12 A. I was at a family friend's house. Oh,  
13 actually, no, no. I was at my house. I was at my  
14 house.

15 Q. And who were you there with, Keon?

16 A. I was there with my grandpa and grandma  
17 from my dad's side, and -- yeah.

18 Q. Okay. And what did you do when -- it's  
19 my understanding you didn't know exactly what had  
20 happened. You just knew your dad had been in an  
21 accident.

22 A. Yeah.

23 Q. And you were there with his parents?

24 A. Yes.

25 Q. And they're from Tehran?

007279

1 A. Yeah.

2 Q. And what did you do with his parents as  
3 you waited to learn, ultimately, you know, what  
4 was going on with your father?

5 A. Well, they were, like, freaking out. So  
6 I just treated them all -- like, give them tissues  
7 and all this kind of stuff.

8 Q. Fidget spinners?

9 A. Yeah.

10 Q. Okay. Did you also write your dad a  
11 letter?

12 A. Yes, I did.

13 Q. Okay. Is that the letter that Aria read  
14 at your dad's funeral?

15 A. Um-hum.

16 Q. How is it -- why don't you just explain  
17 to me what happened that afternoon. How did you  
18 learn your dad had passed?

19 A. So, basically, more family friends came.  
20 And they already knew what happened, but they  
21 didn't tell me, obviously. So we went to the  
22 other family friend's house. And my mom was  
23 there. And, like, there was a ton of people  
24 there. And my mom sat me and my brother down and  
25 then told us, you know, he didn't make it.

007280



1 Q. Okay. Did you learn at that time he'd  
2 been involved with a bicycle and a bus accident?

3 A. Yes.

4 Q. Prior to your dad passing, tell me sort  
5 of what his role in your family was besides just  
6 being your dad.

7 A. He was like the leader of our family, to  
8 be honest. Like, he, honestly, like, run -- he  
9 just, like, ran our family. Like, without him,  
10 like, it would be so different.

11 Q. I've seen the video collage of pictures  
12 that were put together and played at the end of  
13 your father's funeral of all those fun places you  
14 guys traveled.

15 A. Yeah.

16 Q. Did you travel a lot with your dad?

17 A. Yep.

18 Q. And who was the organizer of those  
19 trips?

20 A. My dad.

21 Q. What kind of personality did your dad  
22 have?

23 A. He's very motivated. And he's so loving  
24 to, like, his wife and to me and Aria. Yeah.

25 Q. Okay. So tell me, to the extent you

007281

1 can, what you went through when you learned your  
2 father passed.

3 A. It was really hard for me. I just,  
4 like, couldn't believe what happened. Like it  
5 was -- it was just, like, what the hell? It was  
6 so, like -- it was so surprising, you know.

7 Q. Sure. You also had to watch what your  
8 mom went through; is that fair?

9 A. Yeah.

10 Q. From your 14-year-old perspective,  
11 explain what your mom went through.

12 A. She went through a lot of pain, and,  
13 like, she was very miserable because of the  
14 cancer, obviously, yeah.

15 Q. Did mom -- from your perspective as her  
16 son, did your mom's health get worse after your  
17 dad passed?

18 A. Yes.

19 Q. Did you get to physically observe your  
20 mom as her strength sort of lessened?

21 A. Yes.

22 Q. Did your mom talk to you and your  
23 brother about what was going to happen to you two  
24 should she not survive her cancer?

25 A. Yes.

1 Q. What did she tell you?

2 A. Well, I originally asked her. I was,  
3 like, "Where would we go if you passed away?"

4 She said, "You'd move to Montreal with  
5 Babak and Marie-Claude.

6 Q. What do you call Babak?

7 A. My Dayi Babak.

8 Q. A term of endearment in Iranian?

9 A. Yeah.

10 Q. Like uncle; right?

11 A. Yeah.

12 Q. Gotcha.

13 A. Then I call Marie-Claude Auntie MC.

14 Q. That's easier than Marie-Claude; right?

15 A. Yeah.

16 Q. How did your mom explain to you that --  
17 well, how did it make you feel when your mom  
18 explained that you would leave Las Vegas, where  
19 you'd been your whole life, and go to Montreal?

20 A. I just thought it was crazy, you know.  
21 Like, it's such a big change. But, like, Montreal  
22 is a good place. Like, it's always in my heart.  
23 Like, when we were younger, we always loved that  
24 place. We went there every summer. But, still,  
25 it's kind of crazy, like, leaving your hometown to

007283

1 go to Montreal.

2 Q. Quick move too for you; right?

3 A. Yeah, quick move.

4 Q. Do you remember the day your mom --  
5 let's stay in order.

6 Do you remember your father's --  
7 different services you had for your dad?

8 A. Um-hum.

9 Q. Yes?

10 A. Yes.

11 Q. Where was your first service?

12 A. The first service was here in Las Vegas.  
13 It was a celebration of life and -- yeah.

14 Q. And then where was your father laid to  
15 rest or buried?

16 A. Montreal.

17 Q. Okay. About how long after that first  
18 service did you guys have the second one up in  
19 Montreal?

20 A. About a week.

21 Q. And your mom traveled to Montreal?

22 A. Yeah.

23 Q. After your mom's trip to Montreal, was  
24 she ever able to travel again?

25 A. No.

007284

1 Q. In fact, I kind of remember -- I think  
2 you and your brother and cousins went to a wedding  
3 after your dad passed --

4 A. Yeah.

5 Q. -- in Glasgow.

6 A. Yeah. My mom was supposed to be there,  
7 but she couldn't make it. Her health was too --  
8 like, she was not doing well.

9 Q. Was that Chris' wedding?

10 A. Yeah, Chris' wedding.

11 Q. Who is Chris to you and Johnny and the  
12 Scottish boys?

13 A. They're my second cousins.

14 Q. Where do they live?

15 A. They live in Scotland.

16 Q. Did you go to Chris' wedding in Glasgow?

17 A. Yes.

18 Q. How was that?

19 A. It was great.

20 Q. And did Chris and Johnny -- what's the  
21 youngest brother's name?

22 A. Jamie.

23 Q. -- and Jamie, did they promise your mom  
24 something relative to you and your brother --

25 A. Yep.

007285

1 Q. -- to help take care of you guys?

2 A. Yes.

3 Q. And have they been doing that?

4 A. Yes.

5 Q. How long has Johnny and Jamie been here  
6 in the states since your mom passed?

7 A. About, like, two weeks now.

8 Q. Do you remember me being at your house a  
9 bunch of times the week before trying to get your  
10 mom ready to give her videotaped deposition?

11 A. Yes.

12 Q. Okay. So would that have been sort of  
13 the last good few days your mom had?

14 A. Yes.

15 Q. Exhibit 1, the declaration that you  
16 signed with your mother, is dated September the  
17 30th.

18 Do you remember where you signed that?  
19 Were you at home still?

20 A. No. Yes, I was. Yes. Yes.

21 Q. Okay. Mom was still at home?

22 A. Yes. We were at home.

23 Q. Was it pretty quickly following that day  
24 that she had to go to the hospital?

25 A. Yes.

007286

1 Q. Tell us what that was like for you when  
2 your -- seeing your mom in the hospital.

3 A. Well, at first, like, I was scared, but  
4 not as scared as when I figured out, like, she was  
5 probably going to pass away. But I was -- I was  
6 really scared.

7 Q. Tell me when that change happened, when  
8 it went from one of just hoping she was going to  
9 get better to realizing she wasn't.

10 A. About, like, a couple days into when she  
11 was in the hospital. I don't remember the exact  
12 date, but it was like -- yeah.

13 Q. How did you learn -- how did you come to  
14 think that, hey, Mom's not getting better?

15 A. Well, I got taken home from school on a  
16 Friday, and they're like -- I was, like, "Why am I  
17 going home?"

18 They're like, "You're going to see your  
19 mom."

20 I was like, okay. That's not so good.

21 And then from then on, I just pretty  
22 much knew things were going, like, bad.

23 Q. How long was your mom in the hospital,  
24 Keon, before she passed?

25 A. Like, about a week.

007287

1 Q. Okay. Did you spend a lot of time with  
2 her there?

3 A. Yes.

4 Q. What did you guys talk about?

5 A. We talked about, like, what her life was  
6 like. She gave us her whole life story. And we  
7 talked about things we did so she could hear it  
8 before she left. And, yeah, we just talked about  
9 a bunch of things.

10 Q. Did you stay with her a lot during those  
11 10 days or --

12 A. Yes.

13 Q. Who else was there?

14 A. We had family, like, we had Siamak,  
15 Babak, Marie-Claude, Aunt Alicia, Johnny, Jamie,  
16 Chris, and many others.

17 Q. Is it fair that you have a big extended  
18 family?

19 A. Yeah.

20 Q. Do any of them live here in Las Vegas?

21 A. No.

22 Q. Is there anybody here in Las Vegas that  
23 could take care of you?

24 A. No.

25 Q. When did your mom pass away?

007288



1 A. October 12th.

2 Q. I know the order of your father's  
3 service. Did it go kind of in reverse order for  
4 your mom?

5 A. Yeah.

6 Q. Where was the first service?

7 A. The first service was in Montreal, where  
8 she got buried.

9 Q. She got buried on a Saturday morning; is  
10 that right?

11 A. Um-hum.

12 Q. I think that was October 22nd. Does  
13 that sound right to you?

14 A. Yeah.

15 Q. And then there was a service that  
16 afternoon?

17 A. Yes.

18 Q. Have you been in Montreal that entire --  
19 until coming back for the service tomorrow, have  
20 you stayed in Montreal the whole time?

21 A. Yes.

22 Q. Where are you enrolled in school?

23 A. Selwyn House.

24 Q. Okay. And is that where you'll finish  
25 9th grade and complete high school?

007289

1 A. Yes.

2 Q. And I think I forgot to ask you. At  
3 whose house are you living, Keon?

4 A. I'm living at Babak's and  
5 Marie-Claude's.

6 Q. Are they making some changes to the  
7 house for you boys this weekend?

8 A. Yes.

9 Q. What are they doing?

10 A. They're adding my room and Aria's room.

11 Q. Did you get to have any say-so in what  
12 your room was going to look like?

13 A. Yeah.

14 Q. You got to design your own room?

15 A. Um-hum.

16 Q. Yes?

17 A. Yes.

18 Q. Okay. Why, in your mind, did Aria  
19 ultimately decide to stay in Montreal?

20 A. I think it would just be easier for him.  
21 I thought it would be, like, tiring for him to  
22 just, like, go back and forth from New York to  
23 Canada. And he saw that the schools here -- in  
24 Canada are really prestigious and really good.  
25 So ...

007290

1 Q. Are you glad he's staying with you?

2 A. Yes.

3 Q. Is there any doubt in your mind that  
4 your mom wanted you, when she was still alive, to  
5 go live in Canada with Babak and MC?

6 A. No doubt.

7 Q. I don't have anything else for you,  
8 Keon. Thank you so much.

9 MR. KEMP: Your Honor, next, we'd call  
10 Marie-Claude by video.

11 THE COURT: Very quickly, do the jurors  
12 have any questions of this deposition?

13 Okay. Very good. Go on.

14 (Video played.)

15 DIRECT EXAMINATION OF MARIE-CLAUDE RIGAUD

16 BY MR. CHRISTIANSEN:

17 Q. Could you state your name and spell it  
18 for the record, please.

19 A. Yes. My name is Marie-Claude Rigaud,  
20 M-a-r-i-e, hyphen, C-l-a-u-d-e; last name Rigaud,  
21 R-i-g-a-u-d.

22 Q. Marie-Claude, how are you related to  
23 Katy Barin and Kayvan Khiabani?

24 A. I am a Babak Barin's wife. My husband,  
25 Babak, is Katy Barin's older brother.

007291

1 Q. Let's do the business first. Let me  
2 show you what -- you told me you were Babak  
3 Barin's wife. When did you and Babak get married?

4 A. On August 7, 1993.

5 Q. And you have how many children?

6 A. I have four children.

7 Q. Age ranges?

8 A. From 6 to 15.

9 Q. And where do you live?

10 A. I live in Montreal.

11 Q. And are you a Canadian citizen?

12 A. I am.

13 Q. Same with Babak?

14 A. He is.

15 Q. And are all your children in Canadian  
16 schools?

17 A. Yes, they are.

18 Q. And we learned from Aria that because  
19 you're French, the funny laws of Montreal or  
20 Quebec require your children to go to --

21 A. That's correct.

22 Q. -- Franco schools.

23 A. That's so. My children, in fact,  
24 according to Bill 101, because I was educated in  
25 French, have to attend French school. This is our

1 government's way of ensuring so that the French  
2 language can be maintained in the North American  
3 landscape.

4 But even though they all attend French  
5 school, we speak English at home because we do  
6 believe in Canadian values of multi-culturalism  
7 and bilingualism and, therefore, make it a point  
8 to speak English at home.

9 Q. And that's a little bit different than  
10 Siamak and Alicia's boys go to English-speaking  
11 schools.

12 A. Correct. Correct.

13 Q. Katy passed on what day?

14 A. On October 12th.

15 Q. And where were you when that occurred?

16 A. I was with her. I was beside her.  
17 We -- my family and I -- meaning me and my four  
18 children -- along with my sister-in-law Alicia  
19 Barin and her four children, traveled to Las Vegas  
20 on October 7th. We took the decision to take our  
21 kids with us not knowing how long we would remain  
22 in Las Vegas.

23 So I arrived on the 7th and essentially  
24 stayed 24 hours a day until the 12th, when she  
25 passed. We left the kids in the care of one of

1 Katy's friends. And my husband and I essentially  
2 stayed at the hospital for the entire week.

3 Q. In anticipation of Katy's declining  
4 health, did Katy sign a declaration expressing her  
5 living wishes as the sole parent and guardian of  
6 Aria and Keon for what was to happen to the boys  
7 should she not survive?

8 A. Yes.

9 Q. I'll show you Exhibit 1.

10 And Marie-Claude, you also go by "MC"?

11 A. Yes, I do.

12 Q. Do you mind if I call you MC?

13 A. Not at all.

14 Q. MC, this is the cover sheet to the  
15 guardianship proceedings that were initiated in  
16 Canada; is that right?

17 A. Yes, it is.

18 Q. And they appear to have been initiated  
19 by?

20 A. Katayoun, Katy Barin.

21 Q. Katy, Babak, yourself, and Siamak and  
22 his wife, Alicia?

23 A. Correct.

24 Q. And Katy's affidavit is signed September  
25 the 30th by her?

1 A. Um-hum.

2 Q. And does that affidavit -- have you  
3 reviewed this affidavit before?

4 A. I have.

5 Q. And does that affidavit express her  
6 desires for her boys should she not survive?

7 A. Yes. They -- I believe that affidavit  
8 is extremely clear as to her wishes, wishes that  
9 have been expressed even before she had signed  
10 this declaration.

11 Q. We learned from Siamak that as early as  
12 maybe 2014 in a will that was prepared for Kayvan  
13 and Katy, that they expressed these identical  
14 wishes that you and your husband would --

15 A. Yes.

16 Q. -- raise their boys as the guardians?

17 A. Correct. So legal documents were  
18 prepared back in 2014, which I was aware of. This  
19 declaration and affidavit reaffirms it. A later  
20 judgment, which I'm sure we'll have a chance to  
21 discuss, also reaffirms it.

22 And there were obviously discussions  
23 amongst ourselves as to her wishes.

24 Q. That's right. And then who are the  
25 signatures on the following page? The two boys?

1           A.    The two boys, Aria Khiabani and Keon  
2   Khiabani. And I even remember -- I also recognize  
3   the witnesses' signatures.

4           Q.    Were you aware that the boys actually  
5   went through the affidavit with their mom, had it  
6   explained to them, and signed off as approving  
7   that?

8           A.    Yes, I was aware. I was very aware of  
9   the evening when they did that.

10          Q.    In your mind, can you remember --

11          A.    Absolutely.

12          Q.    -- trying to get the guardianship papers  
13   in order on the same day you were traveling to see  
14   your sister-in-law who you believe is terminal?

15          A.    Yes. There was a great deal of  
16   mobilization happening. My husband was extremely,  
17   extremely worried the day before and -- as she was  
18   admitted into the hospital. He -- my phone would  
19   show that he -- we kept calling each other. He  
20   was very, very worried. Her situation was  
21   deteriorating very quickly. And he wanted to make  
22   sure that there was no issues with regarding the  
23   boys and their care.

24          Q.    What you mean by that, I think, is that  
25   Babak wanted a seamless transition?

007296



1 A. Correct.

2 Q. He wanted, when Katy was alive --

3 A. Yes.

4 Q. -- legal authority to be given to him --

5 A. Absolutely.

6 Q. -- and yourself so that there would be  
7 no legal limbo for these boys?

8 A. Absolutely. That was our biggest  
9 concern, that there be no void, no legal void,  
10 because we knew that the situation would be  
11 painful enough that we shouldn't have to deal with  
12 these matters.

13 Q. And, in fact, the temporary guardianship  
14 order was entered and signed by the superior court  
15 judge on October the 10th?

16 A. Correct.

17 Q. And it gives you and your husband, Babak  
18 Barin, temporary guardianship to safe care of  
19 these boys --

20 A. Absolutely.

21 Q. -- on an interim basis. This was good  
22 for a couple of weeks?

23 A. It was valid for two weeks, which is  
24 quite typical in these circumstances.

25 Q. It gives you the authority to travel and

007297

1 make parental decisions --

2 A. Yes.

3 Q. -- move schools, things of that nature?

4 A. Absolutely.

5 Q. And that was all -- what the judge had  
6 in his possession, one of the many items that he  
7 had in his possession, was Katy's declaration?

8 A. Yes. And it was on the basis of that  
9 declaration that the judgment was ordered.

10 Q. Along with you and Babak's willingness  
11 to accept the task?

12 A. Absolutely, yes. The terms of that.

13 Q. Let me show you Exhibit 3, which is the  
14 second order dated --

15 A. October the 24th.

16 Q. Is this the second -- I think this is a  
17 six-month order.

18 A. This is the six-month order, so this is  
19 the judgment that was rendered after her passing  
20 away, which confirms the judgment of October 7th.  
21 And that extends the period of legal guardianship  
22 to the kids for the next six months.

23 Q. Are the boys, Aria and Keon Khiabani,  
24 American citizens?

25 A. Yes, they are.

007298

1 Q. And have they since, on or about October  
2 the 15th, a few days following their mom's death,  
3 resided in Montreal with you and your husband?

4 A. Yes. In fact, I will never forget --  
5 Katy passed away on a Thursday. We left, Alicia,  
6 my sister-in-law, and I, along with our eight  
7 children, and I have another child currently  
8 residing with us until Christmas. So there was  
9 actually nine kids traveling on a Saturday night.  
10 So we traveled on a Saturday night. Babak and  
11 Siamak traveled with the boys the day after.

12 And I will never forget having them  
13 arrive with the taxi on the 15th. They arrived at  
14 night. Most of the flights leave in the morning  
15 and they arrive -- they leave from Las Vegas late  
16 morning and they arrive early evening. And they  
17 arrived with their suitcases and their two uncles  
18 and here they were at the door.

19 Q. Is that where they're staying?

20 A. Yes, that's where they're staying.

21 Q. Aria this morning explained to us his  
22 not straight line in deciding where he was going  
23 to go to high school. But is it your -- as the  
24 guardian of Aria and Keon, are they both enrolled  
25 in high school?

007299

1           A.    Yes, they are currently both enrolled in  
2 high school. In fact, I got an email on the plane  
3 this morning as I was exiting to confirm which  
4 house. So they're both attending a private school  
5 that's literally a five-minute walk away from our  
6 home. And I just got an email as I was exiting  
7 the plane confirming which house.

8                   It's an old boys' school. And they  
9 function like Harry Potter, which I'm sure you're  
10 all familiar with, with houses. And I just got  
11 the confirmation that Aria would be joining the  
12 same house that Keon. So it's called Speirs.  
13 It's the oldest house.

14          Q.    It's not Slytherin?

15          A.    No, no. They get that from the movies.

16                So, yes, they're enrolled in school.  
17 They're due to start on Tuesday. Their uniforms  
18 have been bought. They're actually at the tailor  
19 right now. I went to the tailor yesterday to get  
20 their pants fixed. Everything is lined up for  
21 them to start on Tuesday morning.

22          Q.    Are there permanent changes taking  
23 effect at your house relative to the accommodation  
24 of those two boys?

25          A.    I would say so. I would say so.

007300

1           Last Sunday, thanks to the help of my  
2           extraordinaire brother-in-law, who's an architect,  
3           some workers were sent to my home to empty the  
4           entire content of the garage, to empty some  
5           storage place so that we could clear the basement  
6           to make a room for Keon. And Aria will be  
7           occupying the garage, which will be transformed  
8           into a room.

9           So as of today, we are -- the 3rd of  
10          November, a wall has been erected in our basement  
11          already. I think Keon's room will be close to  
12          finished when we go back on Sunday. Aria will  
13          have to wait a little bit. It's a bit of a bigger  
14          job for him. A new floor has to be laid down.  
15          The walls have to be insulated. But we are  
16          confident that in the next week he'll have his  
17          bedroom as well. So, this week, they'll have to  
18          share -- they'll have to share a bedroom.

19          Q. I think they'll be okay.

20          A. I think they'll be okay.

21          Q. What additional efforts -- or what  
22          additional things have you done, Marie-Claude, to  
23          set the boys up in Montreal to try to give them a  
24          normal life?

25          A. It is our -- it is our biggest hope --

007301

1 and when I say "we," I speak about my husband and  
2 I -- to give these boys a sense of normalcy as  
3 quickly as possible. Making them feel welcome in  
4 our home and building their rooms as quickly as we  
5 did, to us, was really, really important so that  
6 they would really feel a sense of belonging.

7 We enrolled them in school quickly. I  
8 got a confirmation again yesterday through a  
9 friend who's an emergency pediatric doctor on our  
10 street that I've now found a referral to get them  
11 a doctor, so they have that worked out.

12 We've signed them up for ski. Our  
13 family skis from January to March. They have been  
14 added to our list of family members so that they  
15 will join us every Saturday starting at the  
16 beginning of January.

17 We've bought -- as I said, I indicated  
18 we bought them their uniform. We went -- we've  
19 already identified which winter coats they're  
20 going to get. So there was a big debate in our  
21 house as to should we go with a Canada Goose or  
22 with the GPS brand.

23 So we've looked at all of that and got  
24 them -- tried to get them excited about -- about  
25 living through this period of change, which will

007302

1 bring, hopefully, some -- some joy and new  
2 adventures for them.

3 Q. Right. They've had a rough year?

4 A. They had a terrible year. They had a  
5 terrible year that no children should ever have to  
6 go through.

7 Q. Do the boys have any family here in Las  
8 Vegas, Clark County, to provide parental care,  
9 love, support for them?

10 A. They do not.

11 Q. Okay. And the uncles and the aunts and  
12 their eight children, they're all in Montreal?

13 A. They are. And we live within a  
14 kilometer of each other. It's literally -- we can  
15 go like this -- I'm putting, for the record, my  
16 hand up -- and literally look at the horizon and  
17 the house of my brother-in-law is right there. So  
18 the 10 cousins are reunited within the spectrum of  
19 a kilometer.

20 Q. Very nice.

21 A. And they're very -- I want to insist,  
22 the kids, Aria and Keon, have been coming to us to  
23 visit in Montreal ever since they were very, very  
24 young children. Aria, in fact, lived the first  
25 months of his life with us in my home. Keon

007303

1 started coming, I think, when he was about three.  
2 Katy would put both of them with an accompanying,  
3 obviously, agent from Air Canada and bring them.  
4 And they would spend three weeks to a month every  
5 summer with us.

6 We have a very, very close bond. I've  
7 bathed these kids. I've showered them, fed them,  
8 brought them to camp, played with them, put them  
9 to bed, rocked them to sleep, woken up when they  
10 were sick. We have a really, really close  
11 relationship.

12 And they've had an occasion to establish  
13 an extremely close relationship with their  
14 cousins. The ten cousins are a very strong clan.  
15 They're really a force to be reckoned with.  
16 They're extremely, extremely close.

17 And it was -- there was absolutely no  
18 discussion, despite any -- what everything that is  
19 confirmed in the documents, that they would come  
20 and live in Montreal. It was -- it was the  
21 natural thing to do. It was --

22 Q. It was the plan?

23 A. It was the plan. That was always the  
24 plan, as confirmed. And it was the normal thing  
25 to do.

007304



1 Q. Great. Now I want to walk you back just  
2 a little bit to tell me what this last year has  
3 been like.

4 We learned today -- or everybody else  
5 learned today -- I kind of knew already -- that  
6 Katy gets sick in end of January?

7 A. Correct.

8 Q. Kayvan passed --

9 A. On April 18th.

10 Q. -- on April the 18th?

11 A. Between her diagnosis and the time that  
12 Kayvan passed away, I mean -- it was pretty clear  
13 when we got the diagnose, that it was a question  
14 of -- it was a question of time. They detected it  
15 at a very late stage, and so we were all extremely  
16 concerned. And we obviously wanted to make sure  
17 that she got the best treatment and consider all  
18 of the options as quickly as possible.

19 She was, before she was diagnosed, a  
20 healthy woman, full of energy, full of life and  
21 was hit with this diagnose, which shook us all  
22 very strongly.

23 Obviously, we were absolutely shocked by  
24 Kayvan's passing away, which is extremely tragic  
25 and extremely -- it was very, very difficult for

007305

1 all of us. And we knew that this would have an  
2 impact on Katy's disease. We knew that this would  
3 destroy her. We knew that this would make  
4 everything worse.

5 Q. I take it from your response, MC, that  
6 that's -- that all changed after Kayvan passed?

7 A. Dramatically. Dramatically.

8 Q. Did you have a chance to observe the  
9 effects of Kayvan's passing on Katy and the boys?

10 A. I did. I did.

11 Q. Tell me what your observations were.

12 A. Obviously, as you know, Kayvan was --  
13 Kayvan's body was sent to Montreal, and Katy came  
14 with the boys for the burial in Montreal. I can't  
15 even begin to tell you how horrible this was for  
16 everybody and for her.

17 And we immediately saw signs of her  
18 deteriorating. She lost a lot of hair right after  
19 he passed away, a lot, a lot of hair. She lost  
20 weight. She was weaker.

21 Obviously, she was -- she was  
22 incredibly, incredibly sad. But, you know, Katy  
23 was a very gracious person, a very dignified  
24 person. And we were very concerned because we  
25 knew that a lot of her pain she kept inside. We

007306

1 were all petrified as to what that would do to  
2 her.

3 Q. I take it she tried to be strong for the  
4 boys?

5 A. Of course she would have to be. And she  
6 gave them reassurance that things were going to be  
7 okay, that she was going to be okay. I witnessed  
8 that. I heard her say that.

9 But, also, as adults and us as parents  
10 witnessing that, we're very concerned obviously  
11 about the boys, but also about her and what that  
12 would do to her health. And I saw a clear  
13 deterioration after his passing away.

14 But even in those moments, even in those  
15 moments, Katy would try to keep it together for  
16 the boys. But during the night, I slept with her,  
17 I slept with her in her bed so that I could keep  
18 her temperature so that I could -- I was literally  
19 there touching her body every two, three hours,  
20 making sure. She would flare up with fever. At  
21 some point, I had to put ice with peas and ice  
22 packs all over because the temperature was so  
23 high. She had to be brought into the emergency --

24 Q. Great. Katy passed the 12th of October?

25 A. Correct.

007307

1 Q. And I think about the 14th or the 15th  
2 the boys' home changed from Las Vegas, Nevada, to  
3 Montreal, Canada?

4 A. Correct.

5 Q. And it has not changed since then?

6 A. No, it hasn't.

7 Q. And it's not going to change going  
8 forward?

9 A. And it won't, no.

10 MR. KEMP: Your Honor, that concludes  
11 the video. Can we approach?

12 THE COURT: Certainly.

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

15 THE COURT: Ladies and gentlemen of the  
16 jury, we're going to take a 20-minute break right  
17 now. I'm going to admonish you.

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.

007308

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           See you in 20 minutes.

18           THE MARSHAL: All rise.

19           (The following proceedings were held  
20 outside the presence of the jury.)

21           THE COURT: For the record, with respect  
22 to the video depositions of Keon Khiabani and  
23 Marie-Claude, these videos were stipulated to by  
24 counsel --

25           MR. PEPPERMAN: Correct.

007309

1 THE COURT: -- without any objections to  
2 the Court?

3 MR. PEPPERMAN: Yes. All objections to  
4 those video depositions were resolved between the  
5 parties.

6 THE COURT: I just wanted to put that on  
7 the record. I believe we need to discuss  
8 Mr. Barron, B-a-r-r-o-n.

9 MR. PEPPERMAN: Yes, Your Honor.  
10 Court's indulgence.

11 THE COURT: Do you need a moment?  
12 That's fine. That's fine.

13 MR. TERRY: Your Honor, we have reduced  
14 the disputes involved with Dr. Barron.

15 THE COURT: I'm sorry, Mr. Terry. I  
16 can't hear you very well.

17 MR. TERRY: That's all right. We have  
18 reduced the disputes involving Mark Barron to one.

19 THE COURT: Okay. So which is that?  
20 What page?

21 MR. TERRY: 65.

22 THE COURT: So we're not going to  
23 discuss 38, lines 13, or 39, through 5.

24 MR. PEPPERMAN: We agree that will be  
25 left in.

007310

1 THE COURT: And then 65, lines 8 through  
2 19.

3 MR. PEPPERMAN: And then he wrote one  
4 other section on the copy we gave to you.

5 THE COURT: It's 62, 11 through 20.

6 MR. PEPPERMAN: Yes. And we've agreed  
7 to -- that wasn't in the original designation, so  
8 we've agreed to add 62 -- I believe it should be  
9 62, 4 through 23.

10 MR. TERRY: The only portion that was --  
11 we were discussing was 62, 11 through 20, the two  
12 questions, two or three questions.

13 THE COURT: That's the only thing that I  
14 have that was designated for me too.

15 MR. PEPPERMAN: 63, 11 through 25, is  
16 already in.

17 THE COURT: Well, actually, the  
18 indication that I had was 62, 11 through 20.

19 MR. PEPPERMAN: You want them out?

20 THE COURT: No, no. I understood that  
21 that was --

22 MR. TERRY: I apologize, Your Honor.

23 THE COURT: -- one of the issues we were  
24 going to discuss. So it's not necessary. Is that  
25 correct?

007311

1 MR. TERRY: That is correct. And I  
2 apologize, Your Honor. The reason I drew your  
3 attention to that, although Mr. Pepperman and I  
4 agreed, is because that is inconsistent with 65.

5 THE COURT: Yes, I know it is.

6 MR. PEPPERMAN: That was my -- I thought  
7 he wanted to add or take something out.

8 THE COURT: No. Those are just the  
9 areas that I was asked to review. So there's 65.  
10 I believe it was line 8 through 19. Is that  
11 correct?

12 MR. PEPPERMAN: Correct.

13 THE COURT: Okay. And --

14 MR. TERRY: We object to those  
15 designations, Your Honor, because we believe that  
16 that is Mr. Barron speculating about information  
17 that he has no basis for -- that his own  
18 speculation and information that he contradicted  
19 that he knew earlier at page 62.

20 MR. PEPPERMAN: Well, first portion  
21 first -- or taking his first comment first about  
22 speculation, it's not speculation. The question  
23 specifically asked it based on his understanding.  
24 And prior to this question, he established  
25 personal knowledge as a salesperson of this



1 device, as marketing this device to manufacturers  
2 at trade shows, having sales reps go out, at --  
3 his efforts to sell the device and market the  
4 device, and, based on that personal knowledge and  
5 experience of actually marketing and trying to  
6 sell this device, his understanding of why bus  
7 manufacturers in general are hesitant to take it,  
8 what's the problem. And this is applying that  
9 understanding specifically to Motor Coach  
10 Industries.

11 So it's based on his personal knowledge.  
12 It's his understanding. And nothing prevents MCI  
13 from challenging that understanding in its case in  
14 chief.

15 Second portion of the argument is it  
16 contradicts his prior testimony. And I think  
17 those are two different things that we're talking  
18 about here.

19 One, in the context of your meeting with  
20 Pablo Fierros, did they ever tell you why? Did  
21 they ever say cost was an issue? And he says no.  
22 And that is in.

23 Then the second part of his question,  
24 the predicate to it, is "Is there anything about  
25 an MCI bus that can't let you put this on?" He's

007313

1 giving his answer.

2 And the question is, "Well, generally,  
3 why, if it could be put on, if it's available to  
4 them, what is your understanding of why it's not  
5 used?" And he answers the question.

6 It's not specific to the meeting with  
7 Mr. Fierros; it's generally speaking based on his  
8 understanding and personal knowledge.

9 MR. TERRY: May I respond, Your Honor?

10 THE COURT: Yes.

11 MR. TERRY: The only source of  
12 information that is identified between Mark Barron  
13 and MCI is his conversation with Pablo Fierros.  
14 And after that conversation with Pablo Fierros, as  
15 Mr. Pepperman has pointed out, Barron denies  
16 knowing why they wouldn't take the S-1 Gard.

17 Then you go to the next one, 65, that he  
18 would like to offer. There they just say "What is  
19 your understanding?" And there is no basis for  
20 his understanding with respect to MCI in  
21 particular. There's no basis for him to conclude  
22 why MCI in particular would do those things.

23 MR. PEPPERMAN: Well --

24 MR. TERRY: It doesn't say, generally  
25 speaking, motor coach manufacturers do this or

007314

1 it's my experience that they, as an industry, do  
2 these things. It is particular to MCI.

3 THE COURT: In fact, the general  
4 question is answered on page 38.

5 MR. TERRY: It is.

6 THE COURT: And that would be lines  
7 approximately 13 through page 39, line 5; correct?  
8 You're leaving that in?

9 MR. TERRY: Yes.

10 THE COURT: Okay. I think that this  
11 question that you've decided to leave in -- and I  
12 actually read the other -- the fuller content of  
13 the deposition that I was given at some point, but  
14 it does seem that there's a lack of foundation  
15 aside from the conversation at the trade show with  
16 respect to this. So I'm going to exclude page --  
17 excuse me -- 65, lines 8 through 19.

18 Also, it does contradict what was on  
19 page 62, lines 11 through 20.

20 MR. TERRY: That is the only issue  
21 between the parties, Your Honor. There are no  
22 other objections.

23 THE COURT: Okay.

24 MR. PEPPERMAN: Thank you, Your Honor.

25 THE COURT: Mr. Pepperman, are you

007315

1 coordinating? Go ahead.

2 MR. PEPPERMAN: No. The issue on 62, we  
3 had designated 11 through --

4 THE COURT: Hold on. Let me go back to  
5 that. I've gone on to something else now.

6 All right. Repeat that, please.

7 MR. KEMP: Your Honor, we may want to  
8 wait. Mr. Terry walked out, in fairness.

9 THE MARSHAL: Let me grab him.

10 MR. CHRISTIANSEN: Let me try and grab  
11 him.

12 MR. PEPPERMAN: In light of the Court's  
13 ruling, we designated 62, 11 through 25, but I  
14 think the predicate question should be added on  
15 page 62, 4 through 10, which is basically, "In  
16 your meeting with Mr. Fierros, did you offer  
17 this" --

18 THE COURT: Let me go to the other one.

19 MR. PEPPERMAN: Okay. Page 62, line 4.

20 THE COURT: 62. Just a moment. Repeat  
21 the pages.

22 MR. PEPPERMAN: It's 62.

23 THE COURT: Yes.

24 MR. PEPPERMAN: We would like to add  
25 lines 4 through 10 on page 62 to complete 11

007316

1 through 23.

2 MR. TERRY: We have no objection to the  
3 late designation and no objection to the  
4 testimony.

5 THE COURT: I think this is reasonable.

6 MR. PEPPERMAN: Thank you, Your Honor.

7 THE COURT: Mr. Pepperman?

8 MR. PEPPERMAN: Yes, Your Honor.

9 THE COURT: Mr. Terry.

10 MR. TERRY: Your Honor.

11 THE COURT: I've been told not to look  
12 at Dr. Barron's deposition yet or examine it yet  
13 because there's more to come.

14 MS. BARRETT: Ms. Works and Mr. Barger  
15 are out in the hall trying to address -- narrowing  
16 the issues for Your Honor so you don't have to go  
17 through the entire transcript.

18 THE COURT: All right. And then we have  
19 two others that we set last night, I believe. I  
20 haven't had a chance to look at those because I  
21 was studying for my calendar today last night.

22 MR. PEPPERMAN: I think Katy Barin is  
23 the last one.

24 THE COURT: Are you sure there are not  
25 two others? Babak --

007317

1 MS. BARRETT: We resolved Pears already.  
2 We have the Court's order on it already.

3 THE COURT: So one was --

4 MR. PEPPERMAN: Katy Barin is the last  
5 depo that I believe needs to be --

6 THE COURT: If something else comes up,  
7 just let me know.

8 MR. TERRY: Yes, Your Honor.

9 MR. PEPPERMAN: And, Your Honor, we're  
10 revising the Barron deposition cut. I'll get a  
11 copy as soon as it's ready, just so Mr. Terry and  
12 I can go through it and just confirm we're on the  
13 same page, and then we'll be ready to play. So  
14 maybe 10 or 15 minutes.

15 THE COURT: Not a problem. Are you  
16 going to call a live witness after --

17 MR. KEMP: No, Your Honor. I think  
18 Dr. Breidenthal is going to take too long. I  
19 don't want to be stopped right in the middle of my  
20 direct. We'll just push him over until tomorrow.

21 THE COURT: Actually, I wanted to go  
22 through with you -- and I'd rather you be  
23 conservative than not, because they're going to be  
24 retrofitting or doing something to the IT in this  
25 department for that six-month trial. It's no

007318

1 hurry. We might have to end up going to the 17th  
2 floor for a while.

3 But when do you realistically -- I'm not  
4 trying to push you -- just realistically,  
5 conservatively think that you'll be done with your  
6 case, Mr. Kemp, Mr. Christiansen, Ms. Works?

7 MR. TERRY: Your Honor, may I have  
8 permission to get the attorney in charge?

9 THE COURT: Yes. They wanted to know  
10 today, just to give them an idea.

11 MR. TERRY: You're going way above my  
12 pay grade, Your Honor.

13 MR. KEMP: My first comment is you  
14 should check the news at 5:01 today with regards  
15 to the first point you raised. The first point  
16 you raised, you should check the news at 5:01  
17 today.

18 And then with regards to your specific  
19 question --

20 THE COURT: Well, I was here until 9:15  
21 last night, so I didn't watch the news. I went  
22 home to read it. So check the news at 5:01 and  
23 that will give me an indication?

24 MR. KEMP: That will give you an  
25 indication of the first point you raised.

007319

1           On the second point -- and I just told  
2 Mr. Barger this -- what we're hoping to do is  
3 finish with Dr. Breidenthal tomorrow, play  
4 Dr. Barin's deposition tomorrow, bring Aria live  
5 Monday morning. And I don't imagine that will  
6 take more than 90 minutes.

7           So, basically, we have the whole day  
8 Monday. If Mr. Barger wants it, great; if he  
9 doesn't want it, that's great too. I suggest that  
10 he maybe start in the afternoon Monday. I think  
11 that's pretty sure that we will be done, you know,  
12 Monday at 10:30. We'll be able to make the call  
13 on that for sure tomorrow at 5:00.

14           MR. BARGER: If tomorrow at 5:00 he's  
15 positive he'll finish Monday morning, I can start  
16 with somebody Monday afternoon. I'm sorry. I was  
17 out. I didn't hear the first part --

18           THE COURT: What I want you to hear is  
19 that I'm not rushing you.

20           MR. KEMP: The first point has nothing  
21 to do with us.

22           THE COURT: I just need to have an idea,  
23 at least when I received the email earlier  
24 today -- I don't know what is going to happen at  
25 5:01, but they wanted me to give them a

007320



1 guesstimate. And I'd rather give them a  
2 conservative one so I don't tell them less days  
3 than more.

4 MR. KEMP: They've indicated that their  
5 case will get done a week from Monday. So that  
6 will be -- I don't have in front of me a calendar.

7 THE COURT: I have the calendar.

8 MR. KEMP: The 19th. So assuming we  
9 fight about jury instructions for a day, which  
10 seeing their proposed jury instructions might be a  
11 two-day fight, but assuming we do the closing  
12 statements on Wednesday, jury takes two days to  
13 deliberate, even if we've got to come the week  
14 after that for three days, you're talking, what?  
15 What does that take us to?

16 MR. BARGER: The week of the 26th.

17 THE COURT: 26th?

18 Speaking of jury instructions, even  
19 though I realize it's easier to sit down and do  
20 all of them, for anything that you agree -- I  
21 don't care -- it doesn't matter to me, the regular  
22 ones, the simple ones, I would like any jury  
23 instructions that you agree to as you go along.

24 So by Monday, perhaps, the ones that you  
25 will absolutely agree to. And then I don't mind

007321

1 rereading, but if they're trickling in, then I can  
2 take a look at that. I can research as we go.  
3 That will cut off some time.

4 MR. KEMP: I think the stock  
5 instructions will be pretty easy to agree to. The  
6 special instructions, if you find the bus was  
7 moving, you must find for MCI, those we are not  
8 going to agree to.

9 THE COURT: Understood.

10 MR. BARGER: I know Joel isn't here.  
11 We've submitted some. I haven't seen theirs. I'm  
12 going to be honest with the Court. I have to let  
13 Joel and Lee handle that.

14 MR. KEMP: I expected that.

15 MR. BARGER: There's no way I'm going to  
16 try to deal with Nevada jury instructions. That's  
17 above my pay grade too. Joel and Lee will be  
18 handling that issue.

19 THE COURT: My hope is I know you'd like  
20 to give me an entire packet, but I'd prefer --

21 MR. KEMP: They've done what I think is  
22 a good idea. They've proposed stock instructions  
23 as one package; then they've got their specials as  
24 a second package. That's where the big dispute is  
25 going to be.

1 MR. BARGER: As far as scheduling for  
2 next week, I feel pretty confident I can start  
3 Monday afternoon. There may be -- the reason we  
4 absolutely need the 19th, because that's when my  
5 out-of-town expert had his problem. So he would  
6 probably be the last witness, I suspect.

7 To be candid with the Court, there may  
8 be a little downtime next week because of  
9 scheduling, we run out of witnesses because he's  
10 the last witness. If that's true, we could  
11 probably take some time next week to deal with  
12 jury instructions.

13 MR. KEMP: Your Honor, there are two  
14 potential rebuttal experts that the plaintiffs  
15 have identified, one being Dr. Rosenthal on the  
16 wind issue, which I thought was out of the case,  
17 but it may be sneaking back into the case. So  
18 Dr. Rosenthal is still on board.

19 And then the second is Alex LaRiviere.  
20 He's the bicycle expert, who, assuming for sake of  
21 argument, the defendants put on expert testimony  
22 that they don't think the wind would have been  
23 significant to the bike's operation, which is in  
24 Mr. Granat's report. That's his opinion.  
25 Assuming he testifies and gives that same opinion,

1 Mr. LaRiviere would be a potential rebuttal  
2 expert. And I would advise the Court they have a  
3 motion to strike or preclude Mr. LaRiviere that  
4 has not been heard yet?

5 MR. BARGER: That's correct. We can  
6 kind of figure that out as we go. That's not  
7 definite one way or the other.

8 THE COURT: There's a motion to strike?

9 MR. KEMP: The rebuttal expert  
10 LaRiviere. And each one of those rebuttal  
11 experts, I would think if wind comes back in the  
12 case -- again, you've heard my position on wind  
13 yesterday; I'm not going to repeat it. But if  
14 wind comes back in the case, Rosenthal would  
15 probably take 45 minutes and Alex would probably  
16 take an hour.

17 MR. BARGER: I think the motion to  
18 strike LaRiviere has to do with not timely  
19 designating him or something to that effect, I'm  
20 pretty sure.

21 MR. KEMP: No.

22 MR. BARGER: Well, it's part of it.

23 MR. PEPPERMAN: It says we should have  
24 designated him as an initial expert. Part of the  
25 relief is not calling him on initial. He is a

1 rebuttal.

2 MR. KEMP: The motion -- I don't want to  
3 argue it. It has two points. One, we can't call  
4 him in direct. We're not calling him in direct.  
5 So, one, that's not ready. And, two, they think  
6 we can't call him in rebuttal, which I don't  
7 really understand. But that is their argument.

8 MR. BARGER: We can deal with that if we  
9 need to because everything is filed.

10 THE COURT: Okay. Is there anything  
11 else we need to --

12 MR. PEPPERMAN: Your Honor, briefly on  
13 the topic of jury instructions. As we're going  
14 through the stocks and I started looking through  
15 the defendants' and going through them, I know  
16 some courts operate differently. Some courts have  
17 a set of stock instructions that they read every  
18 time. I don't know if Your Honor has that.

19 THE COURT: No.

20 MR. PEPPERMAN: So we'll go through all  
21 the stock --

22 THE COURT: Yes.

23 MR. PEPPERMAN: -- with the assumption  
24 that we'll be presenting everything. There's none  
25 that the Court reads every time -- thank you.

007325

1 MR. KEMP: And we're going to give them  
2 the verdict form. We did not get a verdict form  
3 from Joel and them.

4 MR. BARGER: We'll take care of that.

5 MR. ROBERTS: One other scheduling  
6 issue, Your Honor, that we may need some guidance  
7 from the Court. We had filed a motion for the  
8 jury to view the motor coach, and we have that  
9 coming in next Tuesday.

10 THE COURT: The motor coach?

11 MR. ROBERTS: The motor coach.

12 MR. KEMP: The actual bus.

13 MR. ROBERTS: Our motion was not  
14 opposed.

15 THE COURT: Okay.

16 MR. ROBERTS: So we went ahead and made  
17 plans to lease the motor coach from the owner and  
18 have it brought to the courthouse. And I guess we  
19 just need guidance on where we may be able to park  
20 it, who would we talk to.

21 THE COURT: So that would be next  
22 Tuesday?

23 MR. ROBERTS: That would be next  
24 Tuesday, Your Honor.

25 THE COURT: I will inquire. I don't

1 know if I'll be able to chat with anyone today,  
2 but I'll make the inquiry.

3 MR. ROBERTS: As you know, Your Honor,  
4 it's 45 feet long.

5 THE COURT: Yes, I do. I know it's 45  
6 feet long.

7 MR. BARGER: We're not going to do that  
8 with a witness. We're not going to have a witness  
9 talk about it. It's just a matter of a jury view.

10 THE COURT: Well, we're going to have to  
11 agree --

12 MR. KEMP: They asked for a jury view.  
13 They didn't specify what they meant by that.

14 MR. BARGER: But we're not talking about  
15 showing it with a witness. We're just talking  
16 about -- we'll work out the procedure and agree to  
17 it and recommend it to you --

18 THE COURT: We're going to definitely  
19 have a procedure and a guideline.

20 MR. BARGER: Oh, absolutely.

21 MR. KEMP: We didn't oppose the jury  
22 view.

23 MR. BARGER: My concept is -- I wrote  
24 you-all do this here. The marshal and the judge  
25 would take the jury down. We would just be

007327

1 already down there standing, would not ask  
2 questions, not be in the way. And the jury can  
3 look at it, you know, go on the bus, but they  
4 can't talk to each other about it, obviously.

5 MR. KEMP: Right.

6 MR. BARGER: So it's pretty mechanical,  
7 to be honest with you. We don't want to have the  
8 witness talk about anything. Just let them look,  
9 and that's the end of it. If they take 5 minutes  
10 or 10 minutes, whatever it takes.

11 THE COURT: We'll review this again  
12 before.

13 MR. BARGER: But can we plan on having  
14 it here Tuesday? We'll work with the marshal  
15 and --

16 THE COURT: Okay. I think it may have  
17 to be in the afternoon because, in the morning --  
18 I believe in the loading dock; right?

19 MR. BARGER: Yes.

20 THE COURT: In the morning it's packed  
21 with trucks that deliver things for the vending  
22 machines and stuff.

23 THE MARSHAL: We'll have a better idea  
24 tomorrow.

25 THE COURT: Okay. Will you follow

007328



1 through with that, Jerry, please?

2 THE MARSHAL: Yes. I sent an email  
3 today.

4 THE COURT: Okay. Marshal Ragsdale  
5 already started looking into it.

6 MR. BARGER: I think it will be pretty  
7 easy to get it worked out once you get a spot.

8 THE COURT: Does anyone need to use the  
9 restroom? Restroom break? Okay. We're going off  
10 the record.

11 (Discussion off the record.)

12 (Whereupon, a recess was taken.)

13 THE COURT: So I'm going to go ahead.  
14 There's no objection, so you can consider it  
15 preadmitted if you're both on the same page and  
16 it's the same document.

17 MR. CHRISTIANSEN: Eric, make sure  
18 you've got the testimonials, like we agreed with  
19 him, out.

20 THE MARSHAL: All rise.

21 All the jurors are present, Your Honor.  
22 Please be seated. Come to order.

23 THE COURT: Parties stipulate to the  
24 presence of the jury?

25 MR. ROBERTS: Yes, Your Honor.

007329

1 MR. PEPPERMAN: Your Honor, plaintiffs'  
2 next witness will be Mark Barron played via  
3 videotaped deposition.

4 Prior to his deposition, however, I have  
5 a proposed exhibit to admit pursuant to the  
6 stipulation of the parties. It's a copy of the  
7 S-1 Gard brochure, and I'll offer it as  
8 Exhibit 81A.

9 THE COURT: Very good.

10 MR. TERRY: No objection, Your Honor.

11 THE COURT: Okay. Very good, sir. It  
12 will be admitted.

13 (Whereupon, Exhibit 81A was admitted  
14 into evidence.)

15 (video played.)

16 DIRECT EXAMINATION OF MARK BARRON

17 BY MR. PEPPERMAN:

18 Q. Mr. Barron, for the record, my name is  
19 Eric Pepperman. I represent the plaintiffs in  
20 this lawsuit. Could you please spell your name  
21 for the record.

22 A. M-a-r-k B. Barron, B-a-r-r-o-n.

23 Q. And have you ever been known by any  
24 other names?

25 A. Yes.

007330

1 Q. What other names?

2 A. Mark Bowen, B-o-w-e-n.

3 Q. Can you tell me how you're currently  
4 employed?

5 A. Runs different businesses. One is  
6 Public Transportation Safety.

7 Q. And what type of entity is Public  
8 Transportation Safety?

9 A. We hold IP on three different safety  
10 products we have manufactured by outsourcing to  
11 vendors, do the marketing and ...

12 Q. You mentioned that Public Transportation  
13 Safety holds IP on three different safety devices?

14 A. Yes.

15 Q. Can you tell me what those safety  
16 devices are?

17 A. The S-1 Dangerzone Deflector, Barrier  
18 Receiver Management System, and the MDZ Shield,  
19 minimize danger zone.

20 Q. The S-1 Dangerzone Deflector, is that  
21 also referred to as an S-1 Gard?

22 A. Yes.

23 Q. And did you invent the S-1 Gard?

24 A. Yes.

25 Q. Can you describe for me the hazards that

007331

1 triggered the S-1 Gard invention?

2 A. That triggered it? It was a woman that  
3 was run over and then seriously injured by an RTS  
4 NovaBus with a barrel side bus, the tires sticking  
5 out. So that's what triggered the project.

6 Q. When you were coming up with the idea  
7 for the S-1 Gard invention, did you think of  
8 similar hazards that the device could prevent?

9 A. Yes.

10 Q. What kind of additional hazards did you  
11 consider when inventing the S-1 Gard?

12 A. Bicycles, road defects, et cetera, just  
13 road conditions, buses turning.

14 Q. Can you tell me what the document is  
15 that we see in Exhibit 1.

16 A. This is the first patent on the  
17 S-1 Gard.

18 Q. When you invented the S-1 Gard, did you  
19 apply for a United States patent on your  
20 invention?

21 A. Yes.

22 Q. Is Exhibit 1 a true and correct copy of  
23 the United States patent that was issued upon your  
24 application?

25 A. Yes.

1 Q. Under "inventors" it lists Mark A.  
2 Bowen. Is that you?

3 A. Yes.

4 Q. And that is the name that you were  
5 previously known by; correct?

6 A. Right.

7 Q. Under "assignee," it says public  
8 Transportation Safety Devices Corp. Is that the  
9 same entity?

10 A. Yes.

11 Q. And Patent No. 5,462,324, is that the  
12 patent number you were given with respect to your  
13 patent on the S-1 Gard?

14 A. Yes.

15 Q. Do you know whether, if I went to the  
16 United States patent website and put in Patent No.  
17 5,462,324, this patent in Exhibit 1 would come up?

18 A. Yes.

19 Q. If you look at the bottom right-hand  
20 corner of Exhibit 1, you'll see numbers. We call  
21 those Bates numbers. On the first page it's  
22 P01303.

23 A. Um-hum. Yes.

24 Q. If you could turn to page P01312.

25 A. Okay.

007333

1 Q. Under "background of the invention,"  
2 under No. 2, "scope and content of the prior art,"  
3 the second paragraph, it reads, "With this advent  
4 of buses and other heavy-wheeled vehicles, a  
5 problem has arisen. These vehicles, especially  
6 buses in metropolitan areas, cause injury to  
7 individuals and objects. Many of the most serious  
8 of these injuries are a result of individuals  
9 being run over by the vehicle. Injuries often  
10 occur when the wheel or chassis of the vehicle  
11 travels over an individual who has slipped and  
12 fallen in the road, crushing a limb or other body  
13 part of an individual as the weight of the vehicle  
14 is applied to the individual."

15 Is one of the hazards you were aiming to  
16 reduce or prevent with the invention of the  
17 S-1 Gard was preventing individuals who slipped  
18 and fall in the road from being crushed by the  
19 weight of the vehicle as the vehicle runs over the  
20 person?

21 A. Yes.

22 Q. Okay. And these individuals that you  
23 envisioned as potentially falling under the wheels  
24 of a bus, did they include individuals who may  
25 fall off a bicycle into the path of the rear

1 wheels?

2 A. No, not at the time.

3 Q. As you worked with promoting or selling  
4 your S-1 Gard invention, did, at some point, you  
5 come to realize that this product might be helpful  
6 to individuals who fall off their bicycle into the  
7 path of the rear wheels of a bus?

8 A. Yes.

9 Q. On that same page, in the second column,  
10 the last paragraph above "summary of the  
11 invention," you write, "Therefore, a need was  
12 perceived for a safe, effective, reliable, and  
13 relatively inexpensive safety barrier that will  
14 protect individuals lying in the path of an  
15 oncoming vehicle as well as individuals who might  
16 cause a hand or arm to get caught between a wheel  
17 and wheel well of a vehicle."

18 As you worked and promoted the sale of  
19 your S-1 Gard invention, did you come to realize  
20 that this invention would benefit individuals,  
21 including individuals lying in the path of  
22 oncoming vehicles as a result of a bicycle  
23 accident with a bus?

24 A. Yes.

25 Q. Can you generally describe how the

007335

1 S-1 Gard works?

2 A. It's a flexible urethane material that  
3 pushes the limbs, the body, the torso out of the  
4 way of the wheels.

5 Q. And where does the S-1 Gard attach to  
6 the bus?

7 A. To the different -- every bus is  
8 different -- undercarriage, but to where there's  
9 integrity points. There's a bracket train that's  
10 bolted to chassis points under the bus, depending  
11 on the bus design.

12 Q. Does the S-1 Gard go in front of the  
13 rear wheels of the bus?

14 A. Yes.

15 Q. It wouldn't -- the S-1 Gard -- if  
16 someone's head was under there, the S-1 Gard  
17 wouldn't protect the head from being run over?

18 A. It would.

19 Q. It would?

20 Okay. Looking at the paragraph on the  
21 second column of Exhibit 1, page 01312, it says,  
22 "The present invention may also be provided with a  
23 wheel molding that extends from the wheel well  
24 over the top of the wheel of the vehicle."

25 If I can direct your attention to page



1 P01310 -- P01310 of Exhibit 1.

2 A. Okay.

3 Q. Looking at Figures 13 and 14 on this  
4 page and the covering over the wheels, is this a  
5 picture of the wheel molding that extends from the  
6 wheel well over the top of the wheel that you  
7 reference in the summary of the invention?

8 A. Yes.

9 Q. And it was your understanding or  
10 intention that the S-1 Gard could be combined with  
11 this wheel molding and used simultaneously;  
12 correct?

13 MR. TERRY: Objection to form.

14 BY MR. PEPPERMAN:

15 Q. Was it your intention with the invention  
16 that the S-1 Gard could be used in conjunction  
17 with the wheel molding?

18 A. Wheel skirt.

19 Q. Wheel skirt?

20 A. Yes.

21 Q. There's been some testimony that this  
22 is -- that these have also been called spats.  
23 Have you ever heard of them referred to as spats?

24 A. Yes.

25 Q. Okay. I'm going to hand you what's been

007337

1 marked as Exhibit 2.

2           Actually, before I get to that, if you  
3 could turn to page P01313, where you -- under  
4 Figure 13 -- it describes Figure 13.

5           Figure 13 illustrates a futuristic bus  
6 design with faring, wheel covers, and safety  
7 barriers.

8           A.    Yes.

9           Q.    Looking at Exhibit 2, is this -- does  
10 this photo depict the bus design with faring,  
11 wheel covers --

12          A.    No.

13          Q.    -- as you described in Figure 13?

14          A.    No.

15          Q.    What's -- how is Exhibit 2 different  
16 than Figure 13?

17          A.    2 is an S-1 Gard, and the other one is  
18 an S-1 Gard with a wheel skirt.

19          Q.    Okay. Just the wheel skirt?

20          A.    Yes.

21          Q.    Okay. So Exhibit 2 depicts a bus with  
22 the wheel skirt that you described in Figure 13  
23 and 14; correct?

24          A.    Yes.

25          Q.    But looking at the picture in Exhibit 2,

007338

1 you designed the S-1 Gard so that it could be used  
2 in conjunction with the type of wheel skirt we see  
3 in Exhibit 2?

4 A. Yes.

5 Q. And just so we have a clean record, did  
6 you design the S-1 Gard so that it could be used  
7 in conjunction with the type of wheel skirt that  
8 we see in the photo marked as Exhibit 2?

9 A. Yes.

10 Q. On the same page of the patent, P01313,  
11 under "description of the preferred embodiments,"  
12 it states, "It will be readily appreciated that a  
13 vehicle of this general type can cause  
14 considerable injury to animate as well as  
15 inanimate objects if driven over them."

16 "A vehicle of this general type," you're  
17 referring to a bus; correct?

18 A. Yes.

19 Q. Is the general idea that it is safer for  
20 someone under a bus to be impacted by the S-1 Gard  
21 and pushed out of the way than to be run over by  
22 the rear wheels of a multiton bus?

23 A. Would you repeat that, please.

24 Q. Sure.

25 When you're talking in the patent about

007339

1 appreciating that a vehicle like a bus can cause  
2 considerable injury if driven over a person, is  
3 the general idea that it -- underlying the  
4 invention that it is safer for someone under a bus  
5 to be impacted by the S-1 Gard and pushed out of  
6 the way rather than be run over by the rear wheels  
7 of the bus?

8 A. Yes.

9 Q. At the top of the same page of  
10 Exhibit 1, under Column 4, it says, "As shown in  
11 Figure 2 and Figure 5, a safety barrier is located  
12 such that it generally faces obliquely with  
13 respect to the transverse axis of the vehicle and  
14 is positioned to extend a marginal distance above  
15 the surface over which the vehicle travels."

16 A. Yes.

17 Q. Does that mean it's essentially designed  
18 to close the gap --

19 A. Yes.

20 Q. Does that mean it's generally designed  
21 to close the gap between the bottom of the bus and  
22 the ground?

23 A. The rocker panel and the ground.

24 Q. And is the -- is there any space between  
25 the S-1 Gard and the ground?

007340

1 A. Yes.

2 Q. Approximately how much?

3 A. 3 inches.

4 Q. I'm going to hand you what's been marked  
5 as Exhibit 3.

6 Can you tell me what this document is?

7 A. It's a media brochure.

8 Q. And what is a media brochure?

9 A. It's for the industry to read to inform  
10 them of the product.

11 Q. Is this type of product literature made  
12 available to people in the bus manufacturing  
13 industry?

14 A. Yes.

15 Q. Again, I'm going to refer to the Bates  
16 numbers on the bottom right-hand corner.

17 If you could turn to P01317.

18 A. Okay.

19 Q. At the top, under "S-1 Gard Dangerzone  
20 Deflector," can you read that first paragraph to  
21 me?

22 A. I don't have my glasses.

23 Q. Okay. I'll read it.

24 "The S-1 Gard Dangerzone Deflector, a  
25 securely mounted, maintenance-free barrier

007341

1 installed in front of the right rear wheels of a  
2 transit bus or motor coach designed to deflect a  
3 person out of the path of the wheels, preventing  
4 catastrophic injury or death."

5 We see a lot of references to transit  
6 buses in the literature, but does the S-1 Gard  
7 work with motor coach buses such as tour buses as  
8 well?

9 A. Yes.

10 Q. Okay. Are motor coach manufacturers  
11 prohibited in any sense from equipping their motor  
12 coaches with S-1 Gards?

13 A. No.

14 Q. Is there any difference in the benefits  
15 that the S-1 Gard would provide with respect to if  
16 it's on a transit bus or a motor coach?

17 A. Preventing injury and death or cost?

18 Q. The S-1 Gard would serve the same  
19 function --

20 A. Yes.

21 Q. -- on both?

22 A. Yes.

23 Q. So just so I'm clear with what you're  
24 saying, the S-1 Gard would serve the same function  
25 and provide the same benefits on a motor coach as

1 it does on a transit bus?

2 A. Yes.

3 Q. Okay. Did you have any involvement in  
4 creating the document that we see in Exhibit 3?

5 A. Yes.

6 Q. And is Exhibit 3 a true and correct copy  
7 of the product information relating to the  
8 S-1 Gard?

9 A. Yes.

10 Q. I'm going to hand you what's been marked  
11 as Exhibit 4 to your deposition.

12 Can you tell me what this document is?

13 A. I believe it's a report from Jim Green,  
14 James Green.

15 Q. Did you commission this report by  
16 Mr. Green?

17 A. Yes.

18 Q. And did you commission the report in the  
19 course of your regularly conducted business  
20 activities?

21 A. Yes.

22 Q. And is this a true and correct copy of  
23 the report furnished to you by Mr. Green?

24 A. Yes, but this is a paper form. It was  
25 in a book form. It's published in a book.

007343

1 Q. Is this report on Public Transportation  
2 Safety's website?

3 A. Yes.

4 Q. Is Exhibit 4 a true and correct copy of  
5 the report published on Public Transportation  
6 Safety's website?

7 A. Yes.

8 Q. If you look at page 2 of Exhibit 4, in  
9 the middle of the page, it says, "In order to  
10 eliminate these accidents, the results of the  
11 enclosed analysis were provided to the National  
12 Academy of Forensic Engineers at their semiannual  
13 seminar in Los Angeles in January 2001. This  
14 information allows the valuable design  
15 characteristics of the S-1 Gard to be available to  
16 the engineering design community. A peer-reviewed  
17 paper on the subject is expected in the NAFE  
18 Journal later this year," NAFE referring to the  
19 National Academy of Forensic Engineers.

20 Do you have any understanding whether a  
21 peer-reviewed paper on the subject was published  
22 in the NAFE Journal?

23 A. Yes.

24 Q. Hand you what's been marked as  
25 Exhibit 5. Is this the peer-reviewed paper on the

007344



1 subject that was published in the NAFE Journal?

2 A. Yes.

3 Q. And if you look through it, it's largely  
4 the same or similar to the report provided by  
5 Mr. Green that we see in Exhibit 4; right?

6 A. Yes.

7 Q. On page 2 of Exhibit 4, Mr. Green  
8 writes, "It is my professional engineering opinion  
9 that the installation of the S-1 Gard will  
10 eliminate the high rate of accidents at the wheel  
11 wells of transit authority buses and other heavy  
12 equipment."

13 Did you know that that was Mr. Green's  
14 conclusion?

15 A. Yes.

16 Q. When you invented the S-1 Gard, it was  
17 your intention to reduce the number of accidents  
18 at the wheel wells of transit buses and other  
19 vehicles; correct?

20 A. Yes.

21 Q. Mr. Barron, I'm going to show you a  
22 video that will be attached to your deposition as  
23 Exhibit 6. If you don't mind reaching over and  
24 pressing "play." Just click on the mouse pad.  
25 Yeah. Right there.

007345

1           Okay. And can you tell me what we're  
2 looking at here?

3           A. It's a stuntman chasing an RTS bus. And  
4 it's a promotional video for the S-1 Gard.

5           Q. Okay. Were you present when this video  
6 was made?

7           A. Yes.

8           Q. Can you tell me what we're seeing in  
9 this?

10          A. An illustration of somebody getting  
11 their bag caught in the door and being shoved out  
12 of the way with the guard.

13          Q. Now, it looked like the guard hit the  
14 person's head?

15          A. Yes.

16          Q. What are we seeing here?

17          A. Someone getting struck by the front of  
18 the bus and going under the bus.

19          Q. Would you tell me what we're seeing  
20 here.

21          A. Someone -- a rider that leaves their  
22 wallet or iPad or their cell phone on the bus,  
23 they'd run back, and they fall down.

24          Q. Does it appear that the S-1 Gard  
25 impacted that stuntman's head?

007346

1 A. Yes.

2 Q. Is it fair to say that we've seen a lot  
3 of different scenarios where different body parts  
4 have fallen underneath the bus in these videos?

5 Is that a fair statement, Mr. Barron?

6 A. Repeat, please.

7 Q. Is it fair to say that we've -- in this  
8 video, we've seen different scenarios where  
9 different body parts are under the bus and  
10 impacted by the S-1 Gard?

11 A. Yes.

12 Q. Including the head?

13 A. Yes.

14 Q. And we just saw another event right  
15 there where the head was impacted; correct?

16 A. (No audible response.)

17 Q. Is that a yes?

18 A. Yes.

19 Q. Okay. You've stated that you were  
20 present for the filming of the video that we've  
21 just watched; correct?

22 A. Yes.

23 Q. And the video that we just watched,  
24 which will be attached as Exhibit 6 to your  
25 deposition, is that a true and correct depiction

007347

1 of the video that was shot in your presence?

2 A. Yes.

3 Q. Do you know when the video was made?

4 A. 2002, I believe.

5 Q. And is the video on your website?

6 A. Yes.

7 Q. And the video that we just watched  
8 that's Exhibit 66 to your deposition, is that a  
9 true and correct copy of the video from your  
10 website?

11 A. Yes.

12 Q. If the S-1 Gard is on a motor coach and  
13 that motor coach impacted a cyclist, causing the  
14 cyclist's head to fall under the bus in front of  
15 the right-hand -- or the right rear wheel, would  
16 the S-1 Gard protect the cyclist's head from being  
17 run over?

18 A. By the right rear wheel?

19 Q. Yes.

20 A. Yes.

21 Q. And, in fact, we saw that exact scenario  
22 in a couple versions of the video we just watched;  
23 is that correct? Yes?

24 A. Yes.

25 Q. Are you aware of any tests or studies

007348

1 done to determine the impact force of the S-1 Gard  
2 if the bus is moving faster than it is in the  
3 video that we just watched?

4 A. Yes.

5 Q. What kind of studies or tests have been  
6 done on that?

7 A. We've had forensic tests done on the  
8 durometer of the urethane to cast the urethane a  
9 certain durometer. So we've done different speeds  
10 and impact of objects to come up with a durometer  
11 to make and cast the S-1 Gard.

12 Q. Okay. And what are you looking for --  
13 strike that.

14 What is the purpose of those tests?

15 A. Well, if the urethane is produced too  
16 hard, it would break on curb impact. It needs to  
17 be flexible but firm enough to shove a body.

18 Q. Could you give me an estimate of the  
19 total number of buses to date with S-1 Gards?

20 A. In the country? U.S.?

21 Q. In the world.

22 A. In the world. Over 50,000. 30 to 60.  
23 It's hard to -- 40 to 60.

24 Q. If you can pull Exhibit 3, which is the  
25 product information.

007349

1 A. Um-hum. Product information. I said  
2 30,000.

3 Q. There it is. It's on the bottom.

4 A. Okay.

5 Q. If you could flip to page P01320. And  
6 the top of the page says, "Major transit fleets  
7 worldwide retrofitting with the S-1 Gard."

8 A. Yes.

9 Q. "Transit agencies and bus OEMs around  
10 the world have made the decision to install the  
11 S-1 Gard."

12 What is OEM?

13 A. Original manufacturer equipment. An OEM  
14 would be like GM, Ford; and buses we have New  
15 Flyer and Gillig.

16 Q. So if a transit agency, for example, or  
17 a tour bus company -- they operate the bus;  
18 correct? They don't manufacture the bus?

19 A. No. They manage them.

20 Q. They purchase the bus from the  
21 manufacturer?

22 A. Yes.

23 Q. And the manufacturer is the original  
24 equipment manufacturer?

25 A. Right.

007350

1 Q. So the S-1 Gard is made available to  
2 these operators of buses, like transit agencies  
3 and motor coach tour companies. And they can  
4 retrofit the buses that they purchase with this  
5 safety device; correct?

6 A. Yes.

7 Q. The S-1 Gard is also marketed and sold  
8 to original equipment manufacturers; correct?

9 A. Yes.

10 Q. And those manufacturers can install the  
11 S-1 Gard on their buses as original equipment and  
12 sell it with the S-1 Gard to the operators?

13 Your company sells the S-1 Gard to the  
14 operators of buses?

15 A. Um-hum.

16 Q. Right?

17 A. Right.

18 Q. Okay. And in those instances, the  
19 operator would retrofit the bus they purchased.  
20 They would add the S-1 Gard to it; correct?

21 A. Yeah, if they retrofit.

22 Q. Okay. Your company also sells the  
23 S-1 Gard to bus manufacturers?

24 A. Yes.

25 Q. And those bus manufacturers would

007351

1 install the S-1 Gard as original equipment and  
2 sell the bus with the S-1 Gard to the operator;  
3 right?

4 A. If the operator specifies it, the OEM  
5 will install it, like a bike rack or a special  
6 mirror or a video camera.

7 Q. And could the bus manufacturers equip  
8 their buses with S-1 Gards as standard equipment?

9 MR. TERRY: Objection. Form.

10 THE WITNESS: No.

11 BY MR. PEPPERMAN:

12 Q. Why not?

13 A. It's federal money. Federal funded.

14 Q. What is federal funded?

15 A. For transit.

16 Q. Well, okay. I'm talking about the  
17 private bus manufacturers.

18 A. Oh, private bus manufacturers.

19 Q. They have the option to install the  
20 S-1 Gard as standard original equipment as part of  
21 the bus?

22 A. Yeah.

23 MR. TERRY: Objection. Form.

24 BY MR. PEPPERMAN:

25 Q. And they could sell that to the



1 operator?

2 A. The OEM? The operator specifies it.  
3 The OEM will install it, like a bike rack or a  
4 special mirror or a video camera.

5 Q. Okay. I'm talking about the private bus  
6 manufacturers.

7 A. Oh, private bus manufacturers.

8 Q. They have the option to install the  
9 S-1 Gard as standard original equipment as part of  
10 the bus?

11 A. Yes.

12 MR. TERRY: Objection. Form.

13 BY MR. PEPPERMAN:

14 Q. And they could sell that to the  
15 operator?

16 A. The OEM?

17 Q. They could sell that to the operator?

18 A. The OEM?

19 Q. They could put the S-1 Gard on as  
20 standard equipment?

21 A. If it's specified by the contractor, the  
22 operator.

23 Q. And could they also put it on the bus as  
24 standard equipment?

25 A. Yes, they could.

007353

1 Q. Even if it's not specified by the  
2 operator?

3 A. Yeah, but -- yeah, private contractors  
4 could. Yes, they could, but they don't.

5 Q. In your experience, why don't they  
6 include S-1 Gards as standard equipment on the  
7 buses they manufacture?

8 A. Because they want to sell the bus at low  
9 cost. And any extra features -- video cameras,  
10 bike racks, S-1 Gards -- are extra equipment that  
11 needs to be specified by the end user, the  
12 contractor or the bus operator, the company that  
13 operates the buses, the private buses. They would  
14 have to specify that special mirror. In Europe,  
15 they have mirrors that turn. They don't come  
16 standard on motor coaches.

17 Q. So if I understand you correctly, you're  
18 saying that, if the bus manufacturer wanted to  
19 equip their buses with an S-1 Gard as original  
20 equipment on the bus --

21 A. They could.

22 Q. -- it would cost extra money to do that?

23 A. Yes, it could.

24 Q. Do you believe that there's a need for  
25 S-1 Gards to be standard equipment on buses?

007354

1 A. Yes.

2 Q. How much would it cost to equip a bus  
3 with an S-1 Gard as standard equipment?

4 A. Between 13 and 1700, depending on the  
5 make and model of the bus, and 1500.

6 Q. Is that the cost for one bus?

7 A. Yes.

8 Q. Is there a discounted cost if a larger  
9 manufacturer buys several S-1 Gards to put on  
10 several of its buses?

11 A. Only in the private market, not the  
12 federal market.

13 Q. Well, I'm just talking about private  
14 buses.

15 A. Oh, private. Okay. Yes.

16 Q. And is it fair to call it some sort of a  
17 bulk purchase cost?

18 A. Quantity discount.

19 Q. What's the typical quantity discount?

20 A. Over a hundred.

21 Q. Hundred dollars?

22 A. A hundred parts. Parts. Kits.

23 Q. So if a bus manufacturer were to  
24 purchase more than a hundred S-1 Gard kits, they  
25 would get a quantity discount?

007355

1 A. Right.

2 Q. And what would that range of that  
3 quantity discount be in terms of dollars?

4 A. 10 to 30 percent, depending on how often  
5 they order.

6 Q. So if you had a large bus manufacturer,  
7 for example, Motor Coach Industries, and they  
8 regularly purchased more than 100 S-1 Gards for  
9 their fleets of buses that they manufactured year  
10 after year --

11 A. Right.

12 Q. -- is it more likely than not they would  
13 get the 30 percent quantity discount?

14 A. They would.

15 Q. And we're looking at page 01320 of  
16 Exhibit 3. Is this -- I see two lists, transit  
17 agencies and bus OEMs. Is it -- are these  
18 exhaustive lists of all the customers of your --  
19 of S-1 Gards?

20 A. No.

21 Q. Okay. So these are just examples?

22 A. Yes.

23 Q. Under bus OEMs, including, I see New  
24 Flyer Industries on there?

25 A. Yes.

007356

1 Q. So New Flyer has purchased S-1 Gards  
2 from your company in the past?

3 A. Yes.

4 Q. In your opinion, does the S-1 Gard  
5 provide a safety benefit to any buses that are  
6 driven --

7 A. Oh, buses, yes.

8 Q. And the more inner-city driving that the  
9 bus does, the more likelihood that that benefit  
10 will actually come into play; correct?

11 A. Yes.

12 MR. TERRY: Objection. Form.

13 BY MR. PEPPERMAN:

14 Q. So when you have a transit bus that is  
15 repeatedly stopping and picking up pedestrians and  
16 driving near cyclists, it's the most likely  
17 scenario where the S-1 Gard is going to come into  
18 play; right?

19 A. Yes.

20 Q. If you can flip back a page to P01319 of  
21 that same exhibit.

22 A. What page are you on? I'm sorry?

23 Q. P01319. There's a blurb about S-1 Gard  
24 saves lives. And it references an incident from  
25 April 9th, 2003, on Wiltshire Boulevard in West

007357

1 Los Angeles. It says, "Accident: Bicyclist  
2 caught under bus and saved by S-1 Gard. Result:  
3 Minor scrapes, abrasions and bruises."

4 Are you familiar with the incident  
5 described in the product information?

6 A. Yes.

7 Q. The second testimonial letter in  
8 Exhibit 7 is Brad Ellis with New Flyer.

9 Do you know Mr. Ellis?

10 A. Yes.

11 Q. How do you know him?

12 A. Trade shows, met him.

13 Q. Okay. This letter is addressed to Ken  
14 Lutkus. Who's Ken Lutkus?

15 A. An engineer. Fits the parts. Goes on  
16 location, does the fit -- to fit the S-1 Gard,  
17 take dimensions for the bracket train.

18 Q. And what is Mr. Ellis communicating in  
19 this letter?

20 A. Basically he's saying that it doesn't --  
21 it doesn't affect any other parts of the bus.

22 Q. In other words, there's no reason with  
23 respect to the chassis or suspension of why a bus  
24 cannot be fitted with the S-1 Gard?

25 A. Right.

007358

1 Q. I'm going to hand you what's been marked  
2 as Exhibit 8.

3 Can you tell me what this document is?

4 A. This is a test report in Albany, New  
5 York, on a right-turn scenario.

6 Q. Okay. The front page says that this  
7 report is sponsored by the Federal Transit  
8 Administration?

9 A. Yes.

10 Q. Is this testing report on Public  
11 Transportation Safety's website?

12 A. Yes.

13 Q. And what we see in Exhibit 8, is it a  
14 true and correct copy of the report that is on  
15 Public Transportation Safety's website?

16 A. Yes.

17 Q. How did Public Transportation Safety  
18 come to be in possession of this report?

19 A. We were asked by them to participate in  
20 the test.

21 Q. And did you participate in the test?

22 A. Yes.

23 Q. Okay. The page numbers are in the top  
24 right- and left-hand corners.

25 A. Um-hum.

1 Q. And just so we're clear for the record,  
2 the title of this report is "Guidebook for  
3 Mitigating Fixed-Route Bus-and-Pedestrian  
4 Collisions." Correct?

5 A. Yes.

6 Q. And if you turn to page 37 of the  
7 report.

8 A. Um-hum.

9 Q. Under Section 2.9.

10 A. Okay.

11 Q. It says, "Strategy 9: Bus Stop Location  
12 Planning and Bus Stop Design."

13 Wait. I'm sorry. That's not what I  
14 want. If you can flip back to page 34.

15 A. Okay.

16 Q. Under Section 2.8.

17 A. Okay.

18 Q. "Strategy 8: Bus Design/Modification."

19 A. Um-hum.

20 Q. What is your understanding of this  
21 section of the report?

22 A. It's right-turn scenario.

23 Q. Let me ask it this way. Is it your  
24 understanding that Section 2.8, Bus  
25 design/Modification Strategy, is a strategy for

007360



1 bus designs and modifications to mitigate  
2 fixed-route bus-and-pedestrian collisions?

3 A. Yes.

4 Q. Okay. And if you could turn to page 38,  
5 Table 2-10.

6 A. Okay.

7 Q. It's titled "Applications of Bus  
8 Design/Modification."

9 A. Um-hum.

10 Q. Down at the bottom it says,  
11 "Application: S-1 Gard."

12 A. Right.

13 Q. "Purpose: To reduce the severity of  
14 injuries resulting from accidents involving  
15 pedestrians coming in contact with the rear right  
16 wheels of transit buses."

17 A. Right.

18 Q. And this report was sponsored by the  
19 Federal Transit Administration?

20 A. Yes.

21 Q. And they reached out to Public  
22 Transportation Safety and asked you to  
23 participate --

24 A. Yes.

25 Q. -- by providing the S-1 Gard?

007361

1 A. Yes.

2 Q. Okay. And one of the strategies for  
3 reducing bus-and-pedestrian collisions and  
4 injuries was to design or modify the bus to  
5 include an S-1 Gard?

6 A. Yes.

7 Q. Was it your understanding that one of  
8 the transit cooperative research program, as  
9 sponsored by the Federal Transit Administration's  
10 strategies for reducing fixed-route  
11 bus-and-pedestrian collisions was to design or  
12 modify buses to include an S-1 Gard?

13 A. Yes.

14 Q. Do you know the approximate date that  
15 Public Transportation Safety's S-1 Gard website  
16 was made available to the public?

17 A. In the beginning of the company. Since  
18 the company started. But it's been changed over  
19 the years.

20 Q. Sure. So when did Public Transportation  
21 first start, you know, advertising or providing  
22 information regarding the S-1 Gard on its website?

23 A. At the start of the company.

24 Q. Approximately what year?

25 A. '94, '95.

007362

1 Q. Can you generally describe your  
2 company's sales and marketing efforts related to  
3 the S-1 Gard?

4 A. We have sales representatives, sales  
5 marketing agents, trade shows, meetings with the  
6 OEMs and bus contractors.

7 Q. So you have a booth at trade shows with  
8 the S-1 Gard that people in the industry attend?

9 A. Yes.

10 MR. TERRY: Objection. Form.

11 BY MR. PEPPERMAN:

12 Q. Does that include OEMs or original  
13 equipment manufacturers?

14 A. Yeah, they attend.

15 Q. Okay. So anyone who's attending a trade  
16 show can come to your booth and see information  
17 about the S-1 Gard?

18 A. Yes.

19 Q. You also mentioned that you have  
20 individual meetings with the original equipment  
21 manufacturers?

22 A. Yes.

23 Q. Did you ever have any meetings with  
24 Motor Coach Industries or a subsidiary of Motor  
25 Coach Industries?

007363

1 A. Yes.

2 Q. When did this meeting take place?

3 A. I'm not sure. Possibly in -- 15 years  
4 ago.

5 Q. So I asked if you ever had a meeting  
6 with Motor Coach Industries or a subsidiary of  
7 Motor Coach Industries. And you said yes?

8 A. Yes.

9 Q. Is that -- is your answer still yes to  
10 that question?

11 A. Yes.

12 Q. Okay. Have you ever heard of a company  
13 called Universal Coach Parts?

14 A. Yes.

15 Q. Are you aware if Universal Coach Parts  
16 is a subsidiary of Motor Coach Industries?

17 A. Don't recall.

18 Q. Did you ever have a meeting with someone  
19 from Universal Coach Parts about the S-1 Gard?

20 A. Yes.

21 Q. Do you recall when that meeting took  
22 place?

23 A. Don't recall.

24 Q. Do you recall where it took place?

25 A. I believe Chicago, Illinois.

007364

1 Q. Do you recall who was present at the  
2 meeting?

3 A. Myself and Chris Ferrone.

4 Q. And Chris Ferrone isn't with Universal  
5 Coach Parts?

6 A. No.

7 Q. Do you recall who was present from  
8 Universal Coach Parts?

9 A. Don't recall.

10 Q. Does the name Pablo Fierros ring a bell?

11 A. Yes.

12 Q. Do you recall if Pablo Fierros was  
13 present with you at this meeting on behalf of  
14 Universal Coach Parts?

15 A. Yes.

16 Q. And, yes, you recall or, yes, it was  
17 Pablo Fierros from Universal Coach Parts?

18 A. Yes.

19 Q. Yes, it was Pablo Fierros?

20 A. Yeah.

21 Q. And Pablo Fierros was acting on behalf  
22 of Universal Coach Parts?

23 A. I don't know. Could be a subsidiary.  
24 Could be, you know -- I believe so. I can't say  
25 positively who was -- who he was representing.

007365

1 Q. What was the purpose of the meeting?

2 A. A presentation regarding the S-1 Gard.

3 Q. A sales presentation?

4 A. Yes.

5 Q. You were trying to sell the S-1 Gard to  
6 Universal Coach Parts?

7 A. No.

8 Q. Who were you trying to sell the S-1 Gard  
9 to?

10 A. To them. They'd be the distributor.  
11 Distributors wouldn't pay for the product.

12 Q. Okay.

13 A. A new product. They would have to be,  
14 you know --

15 Q. Okay. You were meeting with Pablo  
16 Fierros about having Universal Coach Parts  
17 distribute the S-1 Gard?

18 A. Yes.

19 Q. And what was the result of that meeting?

20 A. Not their cup of tea, not their format.  
21 It's a difficult product to sell that's not a fan  
22 belt or a radiator or something. It's a safety  
23 device, so it wasn't -- I believe at that -- I  
24 recall that it didn't fit into their format of  
25 marketing part, that -- their part catalog. They

007366

1 wouldn't have the wherewithal to sell it properly.

2 Q. In the meeting with Pablo Fierros and  
3 Universal Coach Parts, did you discuss -- strike  
4 that.

5 Did you -- did you make the S-1 Gard  
6 available for Motor Coach Industries to equip its  
7 buses with the device?

8 A. Yes.

9 Q. And did Motor Coach Industries equip its  
10 buses with the S-1 Gard?

11 A. No.

12 Q. Do you know why Motor Coach Industries  
13 decided not to equip its buses with the S-1 Gard?

14 A. No.

15 Q. Was it ever expressed to you that cost  
16 was a reason for Motor Coach Industries not to use  
17 the S-1 device safety -- or the S-1 Gard safety  
18 device?

19 A. No.

20 Q. Are you familiar with the J4500 motor  
21 coach manufactured by Motor Coach Industries?

22 A. Yes.

23 Q. Does Public Transportation Safety sell  
24 an S-1 Gard that would fit on a Motor Coach  
25 Industries J4500 that was manufactured in 2008?

007367

1 A. Yes.

2 Q. If Motor Coach Industries were to have  
3 purchased S-1 Gards as standard equipment for all  
4 of -- strike that.

5 I think I might have asked this already,  
6 but I'll ask it again.

7 If Motor Coach Industries were to have  
8 purchased S-1 Gards as standard equipment for all  
9 of the buses it manufactured in 2008, including  
10 the J4500, can you tell me what the approximate  
11 purchase price would have been per bus?

12 A. 1100. Approximately 1100.

13 Q. And I believe, based on your earlier  
14 testimony, that if MCI had started equipping all  
15 of its buses with the S-1 Gard earlier and had a  
16 more established relationship, that price would go  
17 down?

18 A. Yes.

19 Q. MCI, or Motor Coach Industries, could  
20 equip its buses with the S-1 Gard as original  
21 equipment; right?

22 A. Yes, they could.

23 Q. It would cost more; right?

24 A. Yes.

25 Q. They would have to, you know, arguably



1 sell their bus for a little more; right? But  
2 nothing that you're aware of prohibits them from  
3 making that decision to put the safety device on  
4 their bus?

5 A. No. No. There's no law or ...

6 Q. And is there anything about the bus  
7 itself structurally that would prohibit Motor  
8 Coach Industries from equipping its J4500 with  
9 S-1 Gards in 2008?

10 A. No.

11 CROSS-EXAMINATION OF MARK BARRON

12 BY MR. TERRY:

13 Q. Would you take a look at the TCRP Report  
14 125 that's in front of you and the table of  
15 contents.

16 A. Okay.

17 Q. It's got Part 1, "How to mitigate the  
18 most common collision types and circumstances."

19 You see that?

20 A. Um-hum.

21 Q. What does it identify as the most common  
22 collision types and circumstances?

23 A. Collision by vehicle.

24 Q. Yeah. Part 1, "How to mitigate the most  
25 common collision types and circumstances," what

007369

1 does that identify -- this study identify as the  
2 most common collision types and circumstances?

3 A. Pedestrians.

4 Q. Well --

5 A. Where are you?

6 Q. I'm at page 6, Part 1.

7 A. Oh, page 6.

8 Q. No. I'm sorry. It's the contents page.

9 A. Is it this page here?

10 Q. No, this. I'm sorry.

11 A. What page is that on?

12 Q. It's not numbered, but it's right before  
13 page 1.

14 A. Okay. Go ahead. Tell me.

15 Q. Next one.

16 A. Here we go.

17 Q. All right. Are you looking at the  
18 contents page?

19 A. Yes.

20 Q. All right. So you see on the contents  
21 page, Mr. Barron, there's a page 6, Part 1, "How  
22 to mitigate the most common collision types and  
23 circumstances."

24 I'm sorry. Let me get it for you, sir.

25 A. Yeah. Thank you.

007370

1 Q. That's all right.

2 A. Okay.

3 Q. All right. Now, I've handed you TCRP  
4 Report 125, "Guidebook for Mitigating Fixed-Route  
5 Bus-and-Pedestrian collisions."

6 And there in Part 1 it identifies the  
7 most common collision types; correct?

8 A. Yes. Part 2 or Part 1?

9 Q. Part 1.

10 A. Okay. "Collision Type 1, bus turning  
11 right."

12 No. 2 is "Collision Type 2, buses  
13 turning left."

14 3 is "Collision Type 3, pulling into bus  
15 stops."

16 4, "Collisions Type 4, pulling away from  
17 bus stops."

18 Q. All right. Now, what they're actually  
19 studying are fixed-route bus-and-pedestrian  
20 collisions. So that is transit buses; correct?

21 A. Yes.

22 Q. Like the city bus?

23 A. Yes.

24 Q. So the most common occurrences are when  
25 the bus turns right or left or pulls into and away

007371

1 from the bus stop?

2 A. Yes.

3 Q. And those are the circumstances where  
4 the bus is most likely to encounter pedestrians  
5 outside the bus; correct?

6 A. Yes.

7 Q. All right. And so what this study is  
8 looking for is how do we reduce those collision  
9 types where the bus is turning right or left or  
10 pulling into or away from the bus stop; correct?

11 A. Yes.

12 Q. And when you use the term or you hear  
13 the term "transit bus," what do you have -- what  
14 is your definition of a transit bus?

15 A. Numbers, that it moves more than any  
16 vehicle, probably, daily.

17 Q. Okay. And does it generally run on a  
18 fixed route?

19 A. Yes.

20 Q. Does it have a lot of stops?

21 A. Yes.

22 Q. A lot of people getting on and getting  
23 off?

24 A. Yes.

25 Q. A lot of people walking around the bus

007372

1 as they get on and get off?

2 A. Yes.

3 Q. And so there are a number of instances  
4 where the bus intersects or comes in contact with  
5 people on foot, pedestrians?

6 A. Yes.

7 Q. And does it have more than one door  
8 usually?

9 A. Yes.

10 Q. So people can get on and off in the  
11 front or in the middle or even in the rear?

12 A. Um-hum.

13 Q. Yes?

14 A. Yes.

15 Q. In terms of the buses themselves, when  
16 they move, how fast do they go when they make a  
17 right turn or a left turn?

18 A. 2 miles, 3 miles per hour, 4 miles.

19 Q. And when they pull into the bus stop?

20 A. 4 miles, depending, as they --

21 Q. And as they pull away, they go from zero  
22 to 4 or 5 miles per hour?

23 A. Yes.

24 Q. Now, in terms of your patent  
25 application, which is Exhibit 1 -- do you have the

007373

1 patent application before you, sir?

2 A. Yes.

3 Q. In terms of your patent application, did  
4 you identify the reason that you wanted to come up  
5 with or submit this invention for a patent?

6 A. Yes.

7 Q. What did you identify as the reasons?

8 A. The reasons, bus stopping, going,  
9 people, you know, horsing around, a lot of foot  
10 traffic near a heavy vehicle.

11 Q. The same thing that we were talking  
12 about when we reviewed the study itself?

13 A. Right.

14 Q. So this is a lot of people mingling with  
15 or around a large vehicle traveling at a slow rate  
16 of speed?

17 A. Yes.

18 Q. And there is a tendency -- or there has  
19 been reports of accidents where the people fall  
20 down and somehow get under the bus; correct?

21 A. I would say slow and fast, but the  
22 majority slow.

23 Q. And then somehow they get under the bus  
24 and they're at risk of getting run over?

25 A. Yeah. Two-thirds slow and one-third

1 fast, I'd say over 20 years' experience of seeing  
2 these accident studies.

3 Q. So what's fast?

4 A. Fast is, you know, Pacific Coast Highway  
5 where that lady was killed.

6 Q. 70?

7 A. No. No.

8 Q. 60?

9 A. No. Too fast. Fast would be, like, 40.

10 Q. Now, in terms of the S-1 Gard, does it  
11 only go on the right side of the bus?

12 A. No.

13 Q. It can go on the left?

14 A. It could.

15 Q. Do most transit authorities put them on  
16 the right side and the left side?

17 A. The majority, the right side.

18 Q. Because that's where most of the people  
19 are?

20 A. Yes.

21 Q. Now, in terms of motor coach, like a  
22 Greyhound motor coach or one that was still  
23 around, Trailways, is their method of operation  
24 different? Do they go from point to point? Do  
25 they travel on the highway?

007375

1 A. They're different.

2 Q. How is a motor coach operated as a coach  
3 different?

4 A. They do less stops.

5 Q. Okay. Do they have more than one door  
6 or just one door?

7 A. Usually, one door.

8 Q. Do they stop at bus stops, or do they  
9 stop at the --

10 A. They have designated bus stops designed  
11 for a motor coach.

12 Q. So, like, the bus station, if you will?

13 A. Well, in New York, let's say, has a  
14 large motor coach quantity. And they have -- they  
15 wouldn't stop where the transit buses stop. They  
16 stop -- they have their own bus stops. In the  
17 city, let's say Manhattan, they take the riders  
18 out to the different Bronx and New York.

19 Q. Do motor coaches generally operate at  
20 higher speeds than the transit buses?

21 A. Yes.

22 Q. Do they generally go longer distances  
23 between stops?

24 A. Yes.

25 Q. So they have fewer stops than a transit

007376



1 bus?

2 A. Yes.

3 Q. Do you know of any bus line, like  
4 Greyhound, that has put on the S-1 Gard?

5 A. Yes.

6 Q. Who?

7 A. I'm going to have to get that for you.  
8 Motor coach? I believe World Disney has  
9 some. I can't disclose the name yet. They have  
10 some over-the-road ones that have them. There's a  
11 few at airports, you know --

12 Q. Okay.

13 A. -- that take people out to the tarmac.

14 Q. So the ones at the airport, for example,  
15 they deal with a lot of people?

16 A. Um-hum.

17 Q. -- getting on and getting off; correct?

18 A. Right.

19 Q. And then the tour buses, the buses that  
20 go to Disney World and that sort of thing, the  
21 same kind of thing, they operate with a lot of  
22 people around?

23 A. Yeah, in parking lots.

24 Q. So James Green in Exhibit 4, for  
25 example, talks about the fact that there are a lot

007377

1 of statistics about transit bus events and  
2 occurrences?

3 A. Yes.

4 Q. And there is no similar report dealing  
5 with coaches, motor coaches, and the -- like  
6 Greyhound buses and that sort of thing?

7 A. No.

8 Q. Okay. In terms of the marketing that  
9 you do, I note that in the product information  
10 that is Exhibit No. 3, on page 1320 -- I think you  
11 have it -- you list major transit fleets worldwide  
12 retrofitting of the S-1 Gard.

13 A. Right.

14 Q. So what we're talking about here are  
15 those companies that run city buses -- San  
16 Francisco, or Austin, Texas -- or make city buses,  
17 like New Flyer industries, retrofitting with the  
18 S-1 Gard; correct?

19 A. Correct.

20 Q. Now, this tells me that you as a company  
21 market to the actual transit agencies?

22 A. Yes.

23 Q. Do you meet them at the shows that you  
24 talked about?

25 A. Yes.

007378

1 Q. Do you and your sales force make calls  
2 on these people?

3 A. Yes.

4 Q. Do you attempt to sell the transit  
5 agencies the S-1 Gard?

6 A. Yes.

7 Q. Do you have product literature that you  
8 give them, brochures that you give them?

9 A. Yes.

10 Q. Do you show them the videos that you  
11 were shown this afternoon?

12 A. Yes.

13 Q. Which demonstrates at low rates of speed  
14 how the gentleman who falls under the bus is  
15 pushed out; correct?

16 A. We have media material we show the  
17 transit properties, yes.

18 Q. And you show the video that we looked at  
19 this afternoon?

20 A. Well, it's on the website.

21 Q. Okay.

22 A. We have a thumb drive we give them.

23 Q. And it's got those videos in there?

24 A. Yes.

25 Q. Now, the transit authorities can obtain

007379

1 the S-1 Gard from you?

2 A. Yes.

3 Q. Do you assist them in actually making  
4 the installation?

5 A. Yes.

6 Q. Now, the transit authorities would be  
7 the ones that know where their buses operate, how  
8 their buses operate, and whether or not they come  
9 in contact with a lot of people?

10 A. They should.

11 Q. When you deal with the transit agencies,  
12 or your sales force deals with the transit  
13 agencies, do they appear -- the agencies appear to  
14 know what kind of injuries are occurring in their  
15 operation?

16 A. More than likely.

17 Q. And you tell them that you can deal  
18 with -- your guard can deal with a particular kind  
19 of bus-pedestrian event, the S-1 Gard can protect  
20 their passengers?

21 A. It can minimize.

22 Q. Yes. And do you find, or does your  
23 sales force find, the agencies are receptive when  
24 they realize that the S-1 Gard can protect or  
25 minimize injuries to their riding public?

1 A. Yes.

2 Q. Apparently, a number of them have  
3 accepted and have retrofitted their buses; yes?

4 A. Yes.

5 Q. Now, in terms of the marketing that you  
6 do, do you find that the agencies that run buses  
7 that encounter people on a regular basis have an  
8 interest in protecting their riding public?

9 A. Transit?

10 Q. Yes.

11 A. 50 percent.

12 Q. And those are the ones that actually buy  
13 the S-1 Gard?

14 A. Yeah.

15 Q. And the others do not?

16 A. They're proactive.

17 Q. And the others are not?

18 A. Yes. It's extra paperwork they have to  
19 do to get the funding. It's called procurement.  
20 They don't just write a check. They have to get  
21 the money from the feds. So there's a little  
22 procurement.

23 Q. Okay. So does the federal government  
24 then assist the transit agencies in acquiring the  
25 S-1?

007381

1 A. Yes.

2 Q. How do they assist?

3 A. Well, transit properties nationwide lose  
4 money every year. And the only profit they make  
5 is the fare box and advertising. That money goes  
6 into a special account for injury claims. So they  
7 lose money every year. So the federal government  
8 pays because they want people to go to work, to  
9 get tax revenue. So they're big -- the federal  
10 government is big on city transportation for  
11 riders for job operation.

12 Q. Okay. So the federal government will  
13 actually pay transit authorities to buy the S-1;  
14 is that right?

15 A. Yes.

16 Q. So it's no cost to the transit agency,  
17 just the paperwork?

18 A. Yes.

19 Q. Do you market your product to actual  
20 governmental agencies?

21 A. Yes.

22 Q. Whom do you market to? Can you  
23 describe?

24 A. Government agencies?

25 Q. Yes.

007382

1 A. Well, it would be -- the transit  
2 properties are government agencies.

3 Q. I mean, do you sell to the FBI?

4 A. Oh, I see. Like military and --

5 Q. That's right.

6 A. No. No.

7 Q. Okay. But you do sell to those that can  
8 go to the federal government to get the funding  
9 for the equipment that you sell?

10 A. Yes.

11 Q. If someone wanted to buy one of your  
12 equipment, an S-1 Gard, how do they go about doing  
13 that?

14 A. Well, they would contact our company,  
15 and then we would send out somebody to do a  
16 fitting to see if their bus will accommodate the  
17 product.

18 Q. What if they just wanted to see the  
19 S-1 Gard?

20 A. Right. We bring it out. We ship it.  
21 We ship it out ahead of time and then we send a  
22 representative.

23 Q. How long would it take to get an  
24 S-1 Gard?

25 A. Five days.

007383

1 Q. Now, when the S-1 Gard is actually  
2 installed on the bus, does the guard go all the  
3 way out to the edge of the tire?

4 A. Yes. We try to design it to go even  
5 with the tire tread and hold it in as much as  
6 possible because we don't want it rubbing on the  
7 curb.

8 Q. I've got to get this marked. If you  
9 would hand it to the court reporter.

10 What number does it have, Mr. Barron?

11 A. No. 9.

12 Q. Okay. I'm going to show you what the  
13 court reporter has marked as Exhibit No. 9. Is it  
14 from your literature?

15 A. Yes.

16 Q. Does it show the installation of the  
17 guard relative to the bus wheel?

18 A. Yes.

19 Q. Does it show how much distance from the  
20 edge of the tire to the guard?

21 A. Yes.

22 Q. What is the distance?

23 A. The tire has a radius to it. So we try  
24 to keep the side of the guard even with the tire  
25 tread, not the sidewall of the tire, because the



1 sidewall of the tire is not going to catch the  
2 pedestrian and pull them under. The side of the  
3 tire has about an inch, inch and a half radius.  
4 You put a straight edge on the side of the tire  
5 and you measure into the edge of the tire tread.  
6 It's about an inch and a quarter.

7 Q. Okay. Does that document from your  
8 literature indicate that the guard is 1 to  
9 2 inches from the --

10 A. Yes, right on the tire tread.

11 Q. So it's right on the tire tread, which  
12 can be 1 or 2 inches from the --

13 A. Say 1 1/2, 1 1/4 from the sidewall of  
14 the tire.

15 Q. Okay. In terms of the testing that you  
16 have done, besides the simulations that we see in  
17 the video, have you done any actual testing to  
18 determine whether or not an individual struck by  
19 the S-1 Gard by a bus traveling 25 to 35 miles per  
20 hour would sustain injury?

21 A. No.

22 Q. Do you know whether or not they would  
23 sustain an injury?

24 A. Minimize.

25 Q. Minimize. What do you mean, "minimize"?

1 A. Well, if the side of their temple gets  
2 hit by the guard, they can die on impact --

3 Q. Okay.

4 A. -- or expire on impact.

5 You know, depending on if their legs go  
6 under and the bus is going 25, it would do major  
7 minimization, it would minimize it majorly. But  
8 the side of your head or your face or your temple  
9 getting struck by a bus, you know, a solid  
10 impact --

11 Q. You'd be dead on impact?

12 A. Well, it could. I don't know for sure,  
13 but it would be -- you know, the bus is going  
14 25 miles an hour and someone's head gets hit  
15 without a helmet, in a crystal ball --

16 Q. What about with a helmet?

17 A. With a helmet?

18 Q. With a bike helmet. Do you know  
19 whether --

20 A. It would help.

21 Q. The bike helmet would?

22 A. Yeah, the bike helmet. Sure.

23 Q. Do you know whether or not an individual  
24 would survive --

25 A. Don't know. It's not my professional

007386

1 opinion.

2 RE-DIRECT EXAMINATION OF MARK BARRON

3 BY MR. PEPPERMAN:

4 Q. Counsel directed your attention to  
5 Exhibit 8 and the types of collisions that are at  
6 issue in that exhibit.

7 In terms of whether or not the S-1 Gard  
8 is a safe and effective device for preventing  
9 people from getting run over by the rear wheels of  
10 a bus, does it matter how the person gets under  
11 the bus?

12 A. No.

13 Q. And for the purposes of the design, does  
14 it matter -- does it make a difference if the  
15 person falls under the rear wheels when the bus is  
16 turning right or turning left?

17 A. No -- no professional opinion on that.

18 Q. Does it make a difference in terms of  
19 the effectiveness of the S-1 Gard if the person  
20 falls under the bus while the bus is pulling into  
21 a bus stop or pulling away from a bus stop?

22 A. It helps greatly minimize.

23 Q. It performs the same function in either  
24 circumstance; right?

25 A. Yes.

007387

1 Q. Okay. And if someone is hit by a  
2 bicycle -- if the bus hits a bicyclist and the  
3 cyclist falls under the bus in front of the rear  
4 wheels --

5 A. Right.

6 Q. -- does it make any difference on  
7 whether or not the S-1 Gard is going to minimize  
8 the injuries of that person?

9 A. I believe it would more than likely  
10 minimize it.

11 Q. In other words, under the design, it's  
12 designed to minimize injuries of people who fall  
13 under the bus, regardless of how they get under  
14 there?

15 A. Yes. From 1 to 10, you know, from 1 to  
16 10. In other words, an easy scenario would be a  
17 10 and a hard scenario would be a 1. I don't  
18 know. I'm not an expert. But it would definitely  
19 help minimize all 10 examples.

20 Q. Earlier I asked you, when we were  
21 looking at the patent, Exhibit 1, whether you  
22 were -- one of the hazards you were considering  
23 when you invented the S-1 Gard was a bicyclist  
24 getting hit by the bus and falling underneath the  
25 bus. You recall that?

007388

1 A. Yes.

2 Q. And you said at the time you had not  
3 considered the benefits that it would provide to a  
4 bicyclist who is hit by the bus and falls  
5 underneath the bus; correct?

6 A. Yes.

7 Q. But subsequent to the patent, you  
8 realized that the S-1 Gard is an effective safety  
9 device to minimize injury in that circumstance  
10 when a cyclist is hit by the bus and falls  
11 underneath the bus in front of the rear front  
12 tires; right?

13 A. Yes. It was one of the scenarios.

14 Q. Okay. And, in fact, when we looked at  
15 the stuntman video in Exhibit 6, one of your  
16 scenarios that you contemplate is the bus hitting  
17 a bicyclist and the bicyclist falling off his bike  
18 underneath the bus; correct?

19 A. Yes. Yes.

20 Q. Does the S-1 Gard apply in a non-transit  
21 bus setting?

22 A. Yes.

23 Q. There was discussion about transit buses  
24 and the speeds at which they travel; right? Do  
25 you recall that?

1 A. Yes.

2 Q. Okay. Do transit buses travel at higher  
3 rates of speed?

4 A. Than other buses?

5 Q. Just in general.

6 A. Well, where there's scenarios of  
7 injuries and fatalities, city buses are not --  
8 mostly, I would say, the injuries and accidents  
9 happen at low speed. Not low, but, I mean,  
10 they're not on the highway, you know, going  
11 40 miles an hour.

12 Q. But even city roads, speed limits get up  
13 to 40 or 50 miles per hour; right?

14 A. Oh, yeah.

15 Q. So transit buses travel at speeds of  
16 25 miles per hour?

17 A. Right.

18 Q. 30 miles per hour?

19 A. There was one here on 6th Street where a  
20 bicyclist courier was coming down the hill and the  
21 bus -- they travel fast. It's 6th Street,  
22 one-way. So that's -- I put that fatality into  
23 this over here, I'd say a third, a third of those  
24 reports I read.

25 You know, I have NexisLexis [sic] that

007390

1 alarms our company when they happen. So I would  
2 say an estimate, in my experience in the business,  
3 a third of the -- 20 to 40 -- I can't say exactly.  
4 20 to 40 percent of injuries and deaths occur by  
5 buses that are in the city, stopping and going.  
6 The other 20 to 40 percent are like 6th Street and  
7 Pacific Coast Highway incidents. That's the other  
8 20 to 40 percent that I see, you know, over 20  
9 years in this business.

10 Q. And do you believe that S-1 Gard is  
11 potentially effective in the 20 to 30 percent of  
12 accidents you see which are not in city transit  
13 scenarios?

14 A. Minimizing, yes.

15 Q. Do you also market to manufacturers of  
16 motor coaches, such as MCI, Motor Coach  
17 Industries?

18 A. Yes.

19 Q. Okay. And are manufacturers of motor  
20 coaches, such as Motor Coach Industries, at the  
21 trade shows you attend?

22 A. Yes.

23 Q. And is the S-1 Gard at these trade shows  
24 equally marketed to manufacturers of motor  
25 coaches, such as MCI?

007391

1 A. I mean, I'm there. It's up to them. I  
2 can't go, you know --

3 Q. Sure.

4 A. Yeah.

5 Q. It's made available.

6 A. It's available.

7 Q. Okay. And if they came up to you and  
8 inquired about your safety device, you wouldn't  
9 tell them to go away, you don't sell to motor  
10 coach manufacturers, would you?

11 A. No.

12 Q. In fact, I think you mentioned that you  
13 have sold S-1 Gards to motor coach companies;  
14 right?

15 A. Yes.

16 Q. And you mentioned specifically motor  
17 coach companies that shuttle people from the  
18 airport?

19 A. Santa Monica Big Blue. It's a big one  
20 here in Los Angeles. It's running about 500  
21 buses. They have MCIs.

22 Q. So if someone, a pedestrian on a  
23 bicycle, is struck by a bus and they fall under  
24 the bus in front of the rear tires, the S-1 Gard  
25 is designed to minimize that injury in that

007392



1 scenario?

2 A. Yeah, minimize.

3 Q. And is the S-1 Gard generally designed  
4 to minimize the injuries a person sustains in that  
5 scenario I just described?

6 A. By being swiped by a bus or --

7 Q. A bicyclist --

8 A. Bicyclist.

9 Q. -- hit by a bus, falls underneath the  
10 bus in front of the rear tires?

11 A. Yes.

12 Q. The S-1 Gard is designed to minimize the  
13 injuries that person would suffer in that type of  
14 incident?

15 A. Yes.

16 Q. Okay. Do you believe that the S-1 Gard  
17 should be standard equipment on all buses?

18 A. In the U.S. or --

19 Q. Yes.

20 A. The U.S., yes.

21 Q. Based on your experience in the  
22 industry, do you believe that the safety benefits  
23 of an S-1 Gard outweigh the cost to equip the  
24 buses?

25 A. Absolutely. Absolutely.

007393

1 Q. And when you say "absolutely," does  
2 that -- does it make a difference if it's a  
3 transit bus manufacturer or a motor coach  
4 manufacturer?

5 A. Depending on how many buses they have.  
6 If they have less buses, then less parts. I'd say  
7 the same.

8 Q. And, in fact, you have offered the  
9 S-1 Gard for sale to Motor Coach Industries; true?

10 A. If that's the name of the company. It's  
11 kind of murky. It's a little -- could be --  
12 sounds like the company. Pablo sounds -- Pablo,  
13 Chris Ferrone. It sounds like, yes.

14 Q. Do you believe that you have offered --  
15 that you've met with representatives or  
16 subsidiaries of Motor Coach Industries and offered  
17 to sell the S-1 Gard to the manufacturer?

18 A. Not sell at that time. I believe I was  
19 going to do -- because safety is hard to sell. I  
20 wanted to let them -- give them parts at no cost  
21 to get them on the buses so it would become  
22 industry-mandated for the motor coach industry,  
23 because no one puts money out. The companies  
24 aren't going to want to just write a check.

25 So the plan was with Chris Ferrone and I

007394

1 is to offer them the parts at no cost and that,  
2 once their user started using it, you know, they'd  
3 put them on and get it jump-started, then they  
4 would be the main distributor. We'd give them the  
5 rights to it. I believe. It was something like  
6 that.

7 But we didn't go there to sell it, like,  
8 "Here, I'm going to sell you a hundred S-1 Gards."

9 Q. So you offered the S-1 Gard to Motor  
10 Coach Industries or a subsidiary for free?

11 A. Not free. There was some type of --  
12 marketing strategy that I always come up with.

13 Q. Is the strategy to provide them with the  
14 parts, let them try them out --

15 A. Yes.

16 Q. -- get them to like to use the product,  
17 and then to want to purchase more?

18 A. Right. To get them, you know, some type  
19 of marketing strategy.

20 Q. And MCI or its subsidiary rejected that  
21 offer?

22 A. Yes.

23 Q. They didn't even want to try them out  
24 for free?

25 MR. TERRY: Objection. Form.

007395

1 THE WITNESS: I gave them evaluation  
2 parts. Yeah. I'd say no.

3 RECROSS-EXAMINATION OF MARK BARRON

4 BY MR. TERRY:

5 Q. The meeting that you had with Pablo, he  
6 was Universal Coach Parts; correct?

7 A. I believe so.

8 Q. And that's a company that sells bus  
9 parts?

10 A. Yes.

11 Q. And you wanted him to become a  
12 distributor of the S-1 Gard?

13 A. Yes.

14 Q. So that he would include it in the  
15 inventory of things that he sold; right?

16 A. Be a distributor, yes.

17 Q. He would be your distributor?

18 A. Yes.

19 Q. And he told you that it didn't fit with  
20 the kind of equipment that he was selling?

21 A. I believe so.

22 Q. What was he selling?

23 A. Bus parts.

24 Q. Do you know what kind of bus parts?

25 A. Radiators and fuel pumps and alternators

007396

1 and fan belts.

2 Q. You mentioned Santa Monica Big Blue and  
3 that they have S-1 Gards?

4 A. Yes.

5 Q. Do they run coaches?

6 A. Yes.

7 Q. Do they run MCI coaches?

8 A. Yes.

9 Q. And why have they made the decision, do  
10 you know, to put --

11 A. Well, they have them on all their other  
12 buses.

13 Q. Why do they put the S-1 Gard on their  
14 coaches? Do you know?

15 A. All their buses?

16 Q. Yes.

17 A. Well, they're in -- they're in tourists.  
18 People come from all over the world. They have  
19 bike paths. They're proactive. They're  
20 safety-conscious.

21 Q. Does Santa Monica run coaches like fixed  
22 stops, like a transit bus?

23 A. No.

24 Q. But they do run coaches where there are  
25 a lot of people?

007397

1           A.    Yeah.  Santa Monica, yeah.  A lot of  
2 foot traffic.  They collect them on Ocean Avenue,  
3 the tourists, and they take them out.  It's like  
4 they have, I believe, 10 percent of their fleet is  
5 from MCI.

6           Q.    So they made the decision that they  
7 needed the S-1 Gard for their application?

8           A.    Well, they have them on the rest of  
9 their buses.  At the time they didn't have MCI  
10 buses.  They had them on their New Flyers or  
11 Gillig or other makeup of their buses.  So when  
12 they started ordering MCI, I sent Mr. Lutkus, the  
13 engineer, to do the MCI buses.

14          Q.    So they wanted those devices --

15          A.    Yes.

16          Q.    -- on their MCI buses?

17          A.    Yes.

18          Q.    And it was easy enough to do?

19          A.    Oh, yeah.

20          Q.    So if you're dealing with a carrier that  
21 operates buses where he recognizes or the company  
22 recognizes there are people at risk because of  
23 what they do, where they do, and the people they  
24 come in contact with, you're there to help them?

25          A.    Right.

007398

1 Q. And all they have to do is call and  
2 you'll be there --

3 A. Yes.

4 Q. Okay. In terms of this study that we  
5 were looking at, the TCRP study, we looked at  
6 Table 2-10, which is at page 38, I think.

7 A. Yes.

8 Q. Okay. And this is -- have you got it  
9 there?

10 A. Um-hum.

11 Q. And it's got a number of applications of  
12 bus design and modifications, and at the bottom it  
13 has the S-1 Gard; right?

14 A. Yes.

15 Q. All right. Do you know how many  
16 applications were studied by this group?

17 A. Different equipment groups?

18 Q. Yeah.

19 A. I believe maybe five.

20 Q. All right. They talk about, for  
21 example, video -- or bus curb lights?

22 A. Um-hum.

23 Q. And it says "To increase operator's view  
24 of pedestrians running alongside the buses."

25 A. Right. Those are those little round

007399

1 lights by the rear door.

2 Q. And they said that was rated a 5 in  
3 reducing collisions involving pedestrians;  
4 correct?

5 A. Correct.

6 Q. So they rated just bus curb lights 5,  
7 very effective, for reducing collision involving  
8 pedestrians; right?

9 A. Yes.

10 Q. The S-1 Gard, did they rate your  
11 effectiveness or the effectiveness of your  
12 equipment?

13 A. Well, they did in the -- with the -- the  
14 video, and they wrote up a report.

15 Q. But here on the table --

16 A. Oh, on the table? No. It says here  
17 unknown.

18 Q. So the group that studied the S-1 Gard,  
19 as well as others, for the purposes of coming up  
20 with a "Guidebook for Mitigating Fixed-Route  
21 Bus-and-Pedestrian Collisions" talked about driver  
22 training, additional equipment on the bus, bus  
23 stops, routing, signage, and all that sort of  
24 thing?

25 A. Um-hum.

007400



1 Q. And among those, they included the  
2 S-1 Gard, but they had no opinion about whether or  
3 not it was effective?

4 A. Here, no. It says unknown.

5 Q. Okay.

6 REDIRECT EXAMINATION

7 BY MR. PEPPERMAN:

8 Q. Same questions with respect to the  
9 manufacturer.

10 If a bus manufacturer determines that an  
11 S-1 Gard would be an effective safety device to  
12 add to its bus, all they'd have to do is call you;  
13 correct?

14 A. Yes.

15 Q. And you'd be there to help them --

16 A. Right.

17 Q. Okay. And I just want to, lastly, just  
18 clarify this situation with your meeting with  
19 Pablo Fierros and Universal Coach Parts.

20 So, regardless of whether Universal  
21 Coach Parts wanted to distribute the S-1 Gard or  
22 not, as part of your marketing strategy with  
23 Universal Coach Parts, you offered to provide the  
24 S-1 Gards to be equipped on MCI buses to test it  
25 out so it can make a determination regarding the

007401

1 safety and effectiveness of the device; is that  
2 correct?

3 A. I believe it was in the scenario of  
4 trying to get them to be the distributor too.

5 Q. And that offer was rejected; right?

6 A. Right. Yeah.

7 RECROSS-EXAMINATION

8 BY MR. TERRY:

9 Q. When you talked to Pablo, did you say,  
10 "And you can put them on the MCI buses," or did  
11 you say, "We'd like you to distribute the  
12 S-1 Gard"?

13 A. Don't recall.

14 Q. Do you know if Pablo Fierros had  
15 anything to do with manufacturing MCI buses?

16 A. I believe Chris introduced me to him,  
17 saying that he was the president of the company.

18 Q. Which company?

19 A. Of MC -- of Universal Coach Parts.

20 Q. Okay. Do you know if he, as the  
21 president of Universal Coach Parts, had anything  
22 to do with making the buses? Or did he simply  
23 carry parts for sale?

24 A. I believe -- I believe at that time that  
25 he was a parts distributor. Universal Coach Parts

007402

1 sold parts.

2 Q. To everyone?

3 A. Yeah, the largest in the country.

4 Q. And they sold to anyone?

5 A. Yes.

6 Q. And so you wanted him to distribute  
7 through his marketing chain, through his  
8 distribution, your S-1 Gard?

9 A. Yes.

10 Q. And he declined?

11 A. Yeah.

12 MR. CHRISTIANSEN: Your Honor, that  
13 concludes the examination.

14 THE COURT: Okay. Very good. We're  
15 going to wrap it up?

16 MR. CHRISTIANSEN: That's right, Your  
17 Honor.

18 MR. BARGER: That's correct.

19 THE COURT: Ladies and gentlemen, I'm  
20 going to admonish you. We're going to get started  
21 tomorrow at 9:45 in the morning. Okay?

22 You're instructed not to talk with each  
23 other or with anyone else about any subject or  
24 issue connected with this trial. You're not to  
25 read, watch, or listen to any report of or

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1 commentary on the trial by any person connected  
2 with this case or by any medium of information,  
3 including, without limitation, newspapers,  
4 television, the internet, or radio.

5           You're not to conduct any research on  
6 your own relating to this case, such as consulting  
7 dictionaries, using the internet, or using any  
8 reference materials. You're not to conduct any  
9 investigation, test any theory of the case,  
10 re-create any aspect of the case, or in any other  
11 way investigate or learn about the case on your  
12 own.

13           You're not to talk with others, text  
14 others, tweet others, message others, google  
15 issues, or conduct any other kind of book or  
16 computer research with regard to any issue, party,  
17 witness, or attorney involved in this case.

18           You are not to form or express any  
19 opinion on any subject connected with this trial  
20 until the case is finally submitted to you.

21           Have a great evening. See you tomorrow  
22 at 9:45.

23           THE MARSHAL: All rise.

24           (The following proceedings were held  
25 outside the presence of the jury.)

1 THE COURT: I'd like to see counsel at  
2 the bench, please.

3 (A discussion was held at the bench,  
4 not reported.)

5 THE MARSHAL: Court is in recess.

6 (Whereupon, a recess was taken.)

7 THE MARSHAL: Please be seated. Come to  
8 order. Department 14 is back in session.

9 THE COURT: One moment.

10 Are we on the record? Okay. Very good.

11 We are reviewing plaintiffs'  
12 designations, defendants' cross-designations, and  
13 defendants' objections concerning the videotape  
14 deposition of Dr. Katy Barin; correct?

15 MR. BARGER: Your Honor, that's correct.  
16 Your Honor, just for the Court's information, we  
17 have met and worked out 95 percent of them.

18 THE COURT: Very good.

19 MR. BARGER: I'll call your attention to  
20 what page first.

21 The first one, Judge, is on page 40,  
22 lines 2 through 25, but that may be resolved in a  
23 minute. So I think we skip that one. We come  
24 back to it. I just need to look at the  
25 photographs.

1 And if the Court will bear with us --

2 THE COURT: Page 40. I just want to  
3 write down --

4 MR. BARGER: Page 40, lines 2 through  
5 25, but it will probably be academic in a few  
6 minutes.

7 MS. WORKS: And then at 54 is our first  
8 dispute that we probably need to address now, Your  
9 Honor.

10 THE COURT: Page 54?

11 MR. BARGER: Yeah. Let me look just to  
12 double-check.

13 That's correct. And I think the lines  
14 that I'm objecting to --

15 THE COURT: Just one moment.

16 MR. BARGER: Oh, I'm sorry.

17 THE COURT: I'm sorry. I'm not there  
18 yet. Page 54. Okay. Page 54.

19 MR. BARGER: Your Honor, I'm objecting  
20 page 54, line 2 through 25, and it continues on  
21 page 55, lines 1 through 25. And then it  
22 continues on page 56, lines 1 through 19.

23 So there are three pages: 54, 2 through  
24 25; 55, 1 through 25; and 56, 1 through 19. And  
25 the objections -- it goes to -- the Court has

1 already ruled it can't go into the issue with  
2 respect to Dr. Barin's cancer being exacerbated  
3 and caused by stress, et cetera, and this is  
4 exactly what that does. If the Court had a moment  
5 to read those two pages, I think you'll see what  
6 the argument is.

7 THE COURT: Let me read this quickly.  
8 So we're starting with page 54, line 2.

9 MR. BARGER: Line 2, through page 56,  
10 line 19.

11 MS. WORKS: I think 56 we resolved it.

12 MR. BARGER: I'm sorry. Through page  
13 55. You're right.

14 Your Honor, we resolved page 56.

15 THE COURT: Very good.

16 All right. I reviewed them.

17 MS. WORKS: Your Honor, plaintiff  
18 understands the Court's prior rulings have  
19 addressed this. We would really just want to make  
20 the objection here for the record.

21 As Mr. Barger indicated, we've resolved  
22 all of the other disputes, but with respect to  
23 these issues in the next set of objections, go  
24 along these same lines, so just make the record  
25 here once and then we can probably be beyond this.

1           We recognize the Court dismissed the  
2 wrongful death claim for Dr. Barin, finding that  
3 her death was not foreseeable as a matter of law.  
4 Nevertheless, our position is that her grief,  
5 sorrow, loss of companionship, loss of probable  
6 support, all of that is directly at issue in this  
7 case. It's all recoverable.

8           And specifically with respect to her  
9 grief, sorrow, and loss of companionship,  
10 Dr. Barin went through cancer, went through  
11 chemotherapy visits, went through multiple  
12 doctors' visits subsequent to Dr. Khiabani's  
13 passing, which Dr. Khiabani would have been  
14 present for. He was present -- there's going to  
15 be testimony, there may have already been, that he  
16 was present at every single one of her doctors'  
17 visits prior to his passing. As a surgeon and a  
18 medical professional, of course, he had unique  
19 expertise that made him even more uniquely  
20 qualified and a more significant source of  
21 companionship than one might otherwise have with a  
22 spouse who was not a medical professional.

23           So all of those issues combined make her  
24 medical condition relevant to her grief, sorrow,  
25 and companionship in this case in particular. We



1 have the medical testimony in this case from  
2 Dr. Nguyen and Dr. Braiteh, who actually -- we  
3 will not be calling at this point. There was an  
4 issue in the opening statement. Mr. Christiansen  
5 was forced to change portions of his opening  
6 statement and the slides, which was disruptive, of  
7 course, to his opening statement.

8 But, nevertheless, we've continued to  
9 comply with the Court's directive on these issues  
10 and to try to agree with counsel to the extent we  
11 can. But, here, we have to make the record that  
12 we do think it's unduly prejudicial to not, at a  
13 minimum, allow Dr. Barin to testify as to the  
14 impact of the loss of her husband on her disease,  
15 on the progression of her cancer, and the impact  
16 that that all had on her health.

17 In particular, on pages 54 -- I'm  
18 sorry -- 55, Your Honor, Dr. Barin talks about the  
19 fact that one of her treating physicians,  
20 Dr. Lenz -- and this is at line 7. And then I  
21 asked Dr. Lenz, "I mean, what do you think?"

22 He says, "Well, going through traumatic  
23 events like this is enough to shut down your  
24 immune system, and this particular kind of cancer  
25 just thrives on a low immune system."

1           So, there, she's indicating that the  
2 advice of her physicians is that this traumatic  
3 event has essentially shut down her immune system  
4 and caused her condition to worsen. And so we  
5 believe it is relevant to her grief, sorrow, and  
6 loss of companionship and that she's going through  
7 all of these treatments, again, without the  
8 support of Dr. Khiabani, whose death is at issue  
9 in this case.

10           MR. BARGER: And, Judge, I didn't object  
11 to a lot of information there about what she went  
12 through because of the loss, but this specifically  
13 goes to the issue of what she's being told, it's  
14 making her cancer worse, and it goes to the very  
15 issue that you've already ruled on in the case.

16           So my respectful suggestion is that you  
17 should sustain our objection to page 54, line 2,  
18 through page 55 -- actually, through page 56,  
19 line 1.

20           The rest, we worked out.

21           THE COURT: Well, a couple of things.

22           It isn't in this deposition, but I did  
23 discuss, probably at the bench with  
24 Mr. Christiansen and other counsel in asides, is  
25 that, to the extent that Dr. Barin spoke to her

007410

1 physicians concerning concerns and stress that she  
2 was going through without her husband, but that  
3 was different. Okay?

4 MS. WORKS: I understand.

5 THE COURT: Because it's possible that  
6 you tell your doctor things that you may not  
7 mention to your children. You don't want them to  
8 hear certain things and so forth about how this  
9 was affecting her.

10 And it's true that I dismissed the  
11 wrongful death claim because I think it's -- as I  
12 indicated, was too far removed. Okay?

13 But I would like to discuss with you  
14 this part, just this part, because I think this  
15 could actually go through grief, sorrow, and loss  
16 of companionship.

17 Line 7 --

18 MR. BARGER: Which page, Your Honor?

19 THE COURT: I'm sorry. Page 55, line 7,  
20 it says, "And then I asked Dr. Lenz, I mean, what  
21 do you think?"

22 And the part where he says, "Well, going  
23 through traumatic events like this is enough to  
24 shut down your immune system."

25 MR. BARGER: Judge, I hear what you're

007411

1 saying, but that's also hearsay.

2 THE COURT: Right.

3 MS. WORKS: I do think that there would  
4 be some exceptions to the hearsay rule. It's -- I  
5 mean, like statements for the purposes of medical  
6 treatment, and it's also her impression -- her  
7 present-sense impression of what's transpiring in  
8 that moment. And it also goes to what happened  
9 next in that she wasn't able to get the additional  
10 treatments that followed after that.

11 MR. BARGER: Judge, the hearsay  
12 exception is not this statement. It's just the  
13 opposite; it's her statements to him. That's the  
14 exception, not the doctor's statements to her.  
15 It's clear hearsay. It's being offered for the  
16 truth of the matter. It's not a notice of  
17 anything.

18 So I think -- I mean, if the Court read  
19 the whole deposition, they have a lot of testimony  
20 about how she's dealing with this. And I think  
21 this is just improper and extremely prejudicial  
22 from the standpoint of implying that this event is  
23 causing her to get worse.

24 THE COURT: I think it does. I mean,  
25 I'm just speaking out loud to you as I'm -- you

007412

1 can do that, analyze here instead. But it is  
2 concerning as well, very concerning, because of  
3 the 4.2 analysis. And it could confuse the jury  
4 and lead them to think that, you know, there is no  
5 wrongful death cause of action. They could infer  
6 that it was by the statement.

7 MR. BARGER: So when I read what the  
8 Court just said is that you would sustain the  
9 objections on page 54 at lines 2 through page 56,  
10 line 1?

11 THE COURT: Yes.

12 MR. BARGER: Okay.

13 MS. WORKS: Excuse me, Your Honor.

14 THE COURT: So, wait.

15 I'm sustaining the objection from page  
16 54, line 2 through 25, and page 55, lines 1  
17 through 25, consistent with my --

18 MR. BARGER: And then, of course, on  
19 page 56, line 1 --

20 THE COURT: -- decision, and then -- I'm  
21 sorry -- page 56?

22 MR. BARGER: Line 1, just the word  
23 "blood test" as part of the answer.

24 THE COURT: Sure. But then you -- I  
25 thought -- okay. But line 2 through 19 on page 56

1 is --

2 MS. WORKS: We resolved that, Your  
3 Honor. We agreed to some specific redactions  
4 within those sentences. So I think we have an  
5 agreement amongst ourselves as to that --

6 MR. BARGER: Right. We deleted some of  
7 the sentences, not all of them. And we got that  
8 worked out. It's going to be hard to cut, but I'm  
9 sure your guy can do that.

10 So I think, Your Honor, the next one --

11 THE COURT: Yes.

12 MR. BARGER: -- is on page --

13 MS. WORKS: 70.

14 MR. BARGER: Didn't we have one on page  
15 63, line --

16 THE COURT: What page? 63?

17 MS. WORKS: 10 to 17, out.

18 MR. BARGER: 63, 10 to 17? We're okay.

19 THE COURT: Not page 63?

20 MR. BARGER: No, we got that one worked  
21 out.

22 THE COURT: All right. What is your  
23 next one?

24 MR. BARGER: Judge, give us one second  
25 to look.

007414

1 THE COURT: Certainly.

2 MS. WORKS: Page 70, Your Honor, please.

3 THE COURT: Page 70? Okay.

4 All right. Let me just see. I have  
5 highlighted and also underlined in red lines 22  
6 through 25.

7 MR. BARGER: Yes, Your Honor. Let me  
8 just turn to that.

9 THE COURT: Sure.

10 MR. BARGER: We object, Your Honor. And  
11 the objections are the same that you just  
12 basically talked about on page 54. Page 70, lines  
13 22 through 25, and then all of page 71, all of  
14 page 72, all of page 73, all of page 74, and lines  
15 1 through 16 of page 75 on the -- the last  
16 objection was made on that series was page 77,  
17 line 1 through 17, and I've withdrawn that  
18 objection.

19 MS. WORKS: Your Honor, I would stand on  
20 the record I made with respect to the last set of  
21 objections as far as the motion to dismiss and the  
22 exacerbation of her cancer. That record has  
23 already been made.

24 But I would submit to the Court that the  
25 objections at these particular pages, 70 through

1 74, are -- this is distinct. This is -- and the  
2 Court has said that her experience after  
3 Dr. Khiabani's death is relevant to her loss of  
4 grief, her loss of companionship.

5 And these particular designations go  
6 through what's happening to her after the fact,  
7 after his death, after she returns from his  
8 funeral. There's not a comparison of, well, it  
9 got worse or it was different than before.

10 We can look at page 71, "During this  
11 time from June 6, I mean, I was very much  
12 incapacitated. There were days I was in a lot of  
13 pain."

14 Then she goes through having to have her  
15 gallbladder removed and the different procedures  
16 that she's experiencing. And, again, these are  
17 all procedures, surgeries that she's having to  
18 undergo without Dr. Khiabani there as her support  
19 and her companion and even, to some extent, a  
20 medical caregiver.

21 So these are all things that she's  
22 enduring subsequent to losing her husband and  
23 enduring without his presence in her life. So  
24 there aren't comparisons that I see -- and maybe I  
25 am missing and my eyes are going a bit at this

007416



1 point -- but there are not comparisons from before  
2 and after the death with respect to her disease in  
3 these passages.

4 So I think these ones are distinct than  
5 the last set of objections we looked at.

6 MR. BARGER: Judge, I would respectfully  
7 disagree. I hate to ask you to read five pages,  
8 but I think you can read --

9 THE COURT: I'm going to. I need to.

10 MR. BARGER: That's part of your job. I  
11 understand. I think you'll see it's all talking  
12 about the same subject.

13 THE COURT: All right. Are there any  
14 others?

15 MR. BARGER: You know what? Let me  
16 see --

17 THE COURT: Let's see, because I might  
18 just, like, jump off, go read them at my desk,  
19 call you --

20 MR. BARGER: There may be one other.  
21 Let us look at page 82, and we'll tell you.

22 MS. WORKS: I think you said 82, 1  
23 through 24, was okay, but 83, 1 to 15, was an  
24 issue.

25 MR. BARGER: That's correct.

1 No, wait. Wait.

2 Judge, if you go back, we request that  
3 you read page 82, question starting at line 25,  
4 through 83, line 14. And that's the last one.

5 MS. WORKS: And that's, again, the exact  
6 same issue. I don't know that we need an  
7 additional record on it.

8 MR. BARGER: It's the same issue.  
9 You'll see.

10 THE COURT: All right. Are you sure  
11 there isn't anything else?

12 MR. BARGER: That's it.

13 THE COURT: I'll be right back.

14 THE MARSHAL: Please remain seated.  
15 Court is in recess.

16 (Whereupon, a recess was taken.)

17 THE COURT: For some reason, when I'm in  
18 my office, I can read faster, think clearly.

19 Okay. So I've reviewed -- the parts  
20 that are at issue now, that have objections, are  
21 page 70, line 22 to 25, and then page 71, 1  
22 through 25; 72, 1 through 25; 73, 1 to 25; 74, 1  
23 through 25; 75, 1 through 16; correct?

24 MR. BARGER: That's correct, Your Honor.

25 THE COURT: All right. I'm going to

007418

1 sustain everything except for these areas.

2 I'm going to allow on page 74, because I  
3 do not -- I don't believe this suggests at all  
4 that it caused her death -- that Dr. Khiabani's  
5 passing caused her death, but I do think it  
6 discusses -- it shows her -- I think it goes to  
7 her grief and sorrow and how she's feeling and  
8 what's going on after his death.

9 So on line 17 of page 74, "From your  
10 perspective talking to your doctors, has your  
11 cancer gotten worse or better since he died?"

12 "Definitely worse, yes. I mean, on the  
13 verge of liver failure."

14 I think that's reasonable. It shows  
15 what she's going through.

16 MR. BARGER: So that was page 74, lines  
17 17 through 21?

18 THE COURT: Yes. And then also -- and I  
19 think it's important to include this because the  
20 next part confirms that it's not caused -- that  
21 her cancer was not caused by his death.

22 So I'm also going to allow question  
23 22 -- I'm sorry -- page 74, line 22, "Do you have  
24 an understanding from speaking to your doctors  
25 whether or not your cancer is curable?"

007419

1 Answer on page 25, "Well, my doctor told  
2 me straight that this is not a curable disease;  
3 it's a terminal disease."

4 I think that balances out her -- it's  
5 consistent with what she's telling her -- it  
6 should go with the first paragraph I'm allowing.

7 So page 74, lines 17 through 25, and  
8 page 75, line 1, comes in -- and line 2. Okay?

9 Now, line 2, 3, and 4 is out. It's  
10 talking about insurance and so forth.

11 MS. WORKS: I have a note, actually.  
12 Your Honor, I apologize. I meant to agree to that  
13 one.

14 THE COURT: Page 75, line 2, line 3, and  
15 line 4, is out.

16 Now, 75, lines 5 through 16, I think are  
17 relevant because -- because it's talking about  
18 what's going on after her husband passed. And  
19 it's making arrangements for her children, which,  
20 if her husband had been alive, they would probably  
21 be living in Las Vegas with their father. I mean,  
22 that's reasonable.

23 So let me read it to you. This goes in.  
24 Page 75, number 5 -- line 5.

25 "QUESTION: Yeah, and have you and your

1 family had to make sort of extraordinary  
2 arrangements relative to your boys just based  
3 on the knowledge that at some point you're  
4 not going to be around?"

5 Line 9, the answer, "We are making  
6 arrangements every day, yeah. My brothers are  
7 going to be the guardians. Actually, my older  
8 brother will -- has assumed the role of adopting  
9 them, but, because it's between two countries,  
10 it's very complicated."

11 Line 14, "So they have to arrange it so  
12 that it could happen fairly quickly if something  
13 had to happen to me."

14 I think that's reasonable because, had  
15 the other parent been alive, I don't think this  
16 would have been an issue. So it goes to her  
17 grief, sorrow, loss of companionship. Okay?

18 And then was that -- that was it; right?

19 No, page 83.

20 MR. BARGER: It was 83 -- excuse me --  
21 starting at 82, line 25, to 83, line 15, was the  
22 second one.

23 THE COURT: Right. I think there's  
24 relevance in page 83, line 4 through and -- at  
25 least 12. It talks about her schedule after her

007421

1 husband passing away for her treatment.

2 MR. BARGER: Okay. So would I be --

3 THE COURT: You could go before -- you  
4 know, if you wanted --

5 MS. WORKS: Could we start that at 82,  
6 line 25, Your Honor? Because I think that's just  
7 the question that gives context to the answer.

8 THE COURT: Oh, you're right. 82, "You  
9 mentioned going farther with three courses of  
10 chemo," which she was going to before anyway.  
11 "And then you took a break, and then you went back  
12 for another three."

13 MR. BARGER: So I heard the Court say  
14 you'll allow -- you'll overrule the objection to  
15 page 82, line 25, through 83, line 12.

16 THE COURT: Yes, just because this is  
17 talking about how her schedule was changed and,  
18 you know -- and that he passed away and, in  
19 essence, he wasn't there. His companionship was  
20 absent.

21 But I don't believe that in any way this  
22 suggests that that caused the chemo, because she  
23 was already undergoing treatment. So that, I  
24 think, goes directly to loss of companionship, you  
25 know, sorrow, grief. I think that that is fair to

007422

1 bring in.

2 MR. BARGER: So you got the ones before.  
3 So you got them all? I think the record is clear.  
4 Thank you.

5 THE COURT: Very good.

6 MS. WORKS: Thank you, Your Honor.

7 THE COURT: Have a good evening.

8 MR. ROBERTS: Thank you. You too.

9

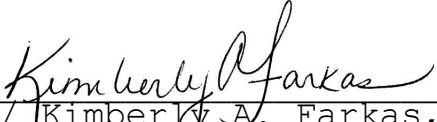
10 (Thereupon, the proceedings  
11 concluded at 5:27 p.m.)

12

13 -o0o-

14 ATTEST: FULL, TRUE, AND ACCURATE TRANSCRIPT OF  
15 PROCEEDINGS.

16

17   
18 /S/ Kimberly A. Farkas, RPR

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007423

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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, et )  
25 al., )

Defendants. )

21 REPORTER'S TRANSCRIPTION OF PROCEEDINGS

22 BEFORE THE HONORABLE ADRIANA ESCOBAR  
23 DEPARTMENT XIV

24 DATED FRIDAY, MARCH 9, 2018

25 RECORDED BY: SANDY ANDERSON, COURT RECORDER

TRANSCRIBED BY: KRISTY L. CLARK, NV CCR No. 708

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I N D E X

Witness:	Direct:	Cross:	Redirect:	Recross:
Robert E. Breidenthal, Jr.	8	85	162	164
Katy Barin	185	240		

E X H I B I T S

Number:	Marked:	Admitted:	Joint:
139		30	
260		83	
193		137	
259A-F		184	

1 LAS VEGAS, NEVADA, FRIDAY, MARCH 9, 2018;

2  
3 P R O C E E D I N G S

4 \* \* \* \* \*

5  
6 THE MARSHAL: All rise.

7 (The following proceedings were held in  
8 the presence of the jury.)

9 THE MARSHAL: All the jurors are present,  
10 Your Honor.

11 THE COURT: Very good. Good morning.

12 THE MARSHAL: Please be seated. Come to  
13 order.

14 THE COURT: All right. Will you please take  
15 roll call.

16 THE CLERK: Yes, Your Honor.  
17 Byron Lennon.

18 JUROR NO. 1: Here.

19 THE CLERK: John Toston.

20 JUROR NO. 2: Here.

21 THE CLERK: Michelle Peligro.

22 JUROR NO. 3: Here.

23 THE CLERK: Raphael Javier.

24 JUROR NO. 4: Here.

25 THE CLERK: Dylan Domingo.

1 JUROR NO. 5: Here.

2 THE CLERK: Aberash Getaneh.

3 JUROR NO. 6: Here.

4 THE CLERK: Jaymi Johnson.

5 JUROR NO. 7: Here.

6 THE CLERK: Constance Brown.

7 JUROR NO. 8: Here.

8 THE CLERK: Enrique Tuquero.

9 JUROR NO. 9: Here.

10 THE CLERK: Raquel Romero.

11 JUROR NO. 10: Here.

12 THE CLERK: Pamela Phillips-Chong.

13 JUROR NO. 11: Here.

14 THE CLERK: Gregg Stephens.

15 JUROR NO. 12: Here.

16 THE CLERK: Glenn Krieger.

17 JUROR NO. 13: Here.

18 THE CLERK: Emilie Mosqueda.

19 JUROR NO. 14: Here.

20 THE COURT: Happy jury. Good morning.

21 Do the parties stipulate to the presence of

22 the jury?

23 MR. KEMP: Yes, Your Honor.

24 MR. TERRY: Yes, Your Honor.

25 THE COURT: Mr. Kemp?

1 MR. KEMP: Your Honor, we call Dr. Robert  
2 Breidenthal to the stand.

3 THE COURT: Okay. And make sure you  
4 speak ...

5 MR. KEMP: Oh, can I get the microphone?

6 THE CLERK: I think Jerry has got it.

7 THE MARSHAL: Yes. Please remain standing.  
8 Raise your right hand for the clerk.

9 THE CLERK: You do solemnly swear the  
10 testimony you're about to give in this action shall be  
11 the truth, the whole truth, and nothing but the truth,  
12 so help you God?

13 THE WITNESS: I do.

14 THE CLERK: Thank you. Please be seated and  
15 please state and spell your name.

16 THE WITNESS: Robert Edward Breidenthal, Jr.,  
17 last name is B-r-e-i-d-e-n-t-h-a-l.

18 THE COURT: Thank you.

19 MR. KEMP: Good morning, ladies and  
20 gentlemen.

21 IN UNISON: Good morning.

22 MR. KEMP: You can hear me good? Good?  
23 Okay. All right.

24

25 DIRECT EXAMINATION

1 BY MR. KEMP:

2 Q. All right. Dr. Breidenthal, will you tell  
3 the jury where you went to college.

4 A. I went to undergraduate school at Wichita  
5 State University and graduate school at Cal Tech,  
6 California Institute of Technology.

7 THE COURT: Before you go on, I would like  
8 you to -- to get your mic.

9 Jerry, will you help him with his mic.

10 THE MARSHAL: Yes, sir. You'll speak into  
11 the mic.

12 THE WITNESS: Sorry.

13 BY MR. KEMP:

14 Q. Okay. Let's try it again. Where did you go  
15 to college at?

16 A. Wichita State University and then graduate  
17 school at California Institute of Technology.

18 Q. Okay. And what did you study at Wichita  
19 State?

20 A. Aeronautics, aerodynamics.

21 Q. Did you get a bachelor's degree in that?

22 A. Yes.

23 Q. And -- and have you gotten a master's degree?

24 A. A master's and a PhD at Cal Tech.

25 Q. And what did you get the master's degree in?



1 A. In aeronautics.

2 Q. And what did you get the doctorate degree in?

3 A. The same thing, aeronautics.

4 Q. And when you get a doctorate degree, do you  
5 have to do a paper or something?

6 A. Oh, yes.

7 Q. Okay. And what did you do the paper in?

8 A. My thesis was on the turbulent shear layer.

9 Q. The what?

10 A. Turbulent shear layer.

11 Q. And what does that mean?

12 A. A turbulent shear layer is where you have two  
13 streams that are going in the same direction but they  
14 have different speeds, so there's shear between them.

15 Q. Okay. And what's the difference between a  
16 shear layer and an air blast?

17 A. In the example of this case, the shear layer  
18 is the edge of the air blast where the flow separates  
19 from the bus body and forms a shear layer.

20 Q. Okay. And when you were -- first of all,  
21 where is Cal Tech?

22 A. Cal Tech is in Pasadena, California.

23 Q. Okay. And is that associated with the Jet  
24 Propulsion Laboratory?

25 A. Yes. It's managed by Cal Tech.

1 Q. Okay. And just so the ladies and gentlemen  
2 know what I'm talking about, what is the Jet Propulsion  
3 Laboratory in Pasadena?

4 A. The Jet Propulsion Lab is, I would say, the  
5 premier place in the world for planetary probes. They  
6 launch and manage satellites that go throughout the  
7 solar system.

8 Q. When you were at Cal Tech in Pasadena, did  
9 you study blunt objects?

10 A. Yes, I did.

11 Q. Can you tell the jury what you did.

12 A. For my spring project in my master's year of  
13 1974, I looked at the drag around the front of a blunt  
14 body, which looks something like a blunt-headed  
15 torpedo. So it was a long, circular cylinder pointed  
16 into the flow of the wind tunnel. And I measured the  
17 drag on just the front of this blunt-headed torpedo.

18 Q. And what was the objective of that study?

19 A. The purpose was to measure how the -- this  
20 forebody drag, the drag on the front of the  
21 blunt-headed torpedo depended on the corner radius, how  
22 sharp the corner was.

23 Q. And the corner radius means what?

24 A. Imagine you have a blunt-headed torpedo with  
25 a sharp edge all the way around as if you've cut it off

1 with a hacksaw. There, the corner radius would be  
2 zero, very small, compared with the diameter of the  
3 torpedo. And then other models I looked at, in  
4 addition to the sharp-cornered one, had a progressively  
5 more rounded corner all the way around.

6 Q. Okay. Like, for example, the edge of this --  
7 this drawing, what would the corner of that be  
8 called -- or that drawing, any -- a square, what would  
9 the corner be called?

10 A. I'm not quite sure what you mean.

11 Q. Is that measured in degrees?

12 A. Well, the corner radius would be measured in  
13 distance. It would be an inch or 4 inches or whatever.

14 Q. Okay. And the jury's heard the term "radii."  
15 What does that mean?

16 A. Radius means just the -- the length of the  
17 radius of the arc. And radii is just the plural form  
18 for radius. So radius is just length of the protractor  
19 when you draw a circle.

20 Q. So the correct pronunciation would be radii?

21 A. Yes, I believe so.

22 Q. All right. And when you did this study at  
23 Cal Tech, were you attempting to determine good, bad,  
24 or indifferent radii?

25 A. Yes. I systematically varied the corner

1 radius and measured the drag on the front of this body.

2 I might say that the reason why we studied  
3 this idealized body was to just understand the general  
4 character of what we call bluff body flows, when the  
5 corner radius has changed.

6 Q. And did you determine the best radii?

7 A. Yes. If the corner's very sharp, the core  
8 body drag is high. As the corner radius progressively  
9 increases so that the front end is more and more  
10 rounded, the forebody drag gets smaller and smaller  
11 until, when I made the corner radius one-eighth the  
12 diameter of this torpedo, the forebody drag practically  
13 vanished. It's really a remarkable phenomenon.

14 Q. So what is the optimum radii that you found  
15 in this study?

16 A. When the corner radius was one-eighth the  
17 diameter, that's when I found the -- the forebody drag  
18 was essentially zero.

19 Q. And the one-eighth, is that also expressed in  
20 a numeric figure?

21 A. Yes. One-eighth would be 0.125.

22 Q. .125?

23 A. .125.

24 Q. Okay. And 8 times .125 is 1; right?

25 A. Correct.

1 Q. Okay. All right. When was that study done,  
2 the one you -- you've talked about at Cal Tech?

3 A. 1974.

4 Q. When?

5 A. Sorry. 1974.

6 Q. Okay. Now, have you been retained to analyze  
7 aerodynamic issues on buses apart from this case?

8 A. Yes.

9 Q. And can you tell the jury what type of case  
10 you worked on?

11 A. Yes, it was a problem with the Seattle Metro  
12 buses where I live in Seattle.

13 Brian Sherlock approached me to try to solve  
14 a problem they had. Sometimes it rains in Seattle.  
15 And when it does, the left front wheel would throw up  
16 debris. And because of misbehavior of the flow at the  
17 left front end of these particular kinds of buses we  
18 had in Seattle, there was a big recirculation region so  
19 that the debris flung up from the road by the left  
20 front tire would actually move forward towards the  
21 front corner of the bus and get deposited on the  
22 outside rearview mirror, which, of course, the driver  
23 relied on for safety.

24 So -- and Brian was, I think, the union  
25 safety officer in Seattle. And so they were trying to

1 figure out a solution to this problem because the  
2 drivers were having to drive down the road every time  
3 it rained in Seattle with the window -- with the window  
4 open and wiping the mirror with a Kleenex all the time.

5 Q. Okay. Was flow separation an issue in that  
6 case?

7 A. Yes. That was the reason why the debris was  
8 actually moving forward towards the front of the bus.  
9 It was because the boundary layer separated and there  
10 was a recirculation zone.

11 Q. Okay. And I know we're going to get into it,  
12 but can you explain to the jury just in general what  
13 flow separation means.

14 A. Yes. Normally, if you have a streamlined  
15 shape, like a wing, the flow follows the surface. But  
16 if you have a bluff body flow that is not streamlined  
17 but bluff, then, especially when there are sharp  
18 corners, the flow immediately adjacent to the surface,  
19 which is called the boundary layer, no longer follows  
20 the surface, but instead it lifts up away from the  
21 surface. That's called flow or boundary layer  
22 separation.

23 Q. Okay. We see this word "bluff" used a lot in  
24 aerodynamics; yes?

25 A. Yes.

1 Q. What does bluff mean?

2 A. Bluff is the opposite of streamlined. So a  
3 bluff object is not long and smooth and streamlined,  
4 but it's sort of blunt and typically has the  
5 possibility for boundary layer separation.

6 Q. Okay. So you told us what you did in '74.  
7 What happened after that in terms of your professional  
8 involvement with aerodynamics, if any?

9 A. Well, I've continued for the last four  
10 decades doing research on turbulence. And I have a  
11 number of graduate students and research contracts over  
12 the years.

13 Q. And where do you work now?

14 A. University of Washington.

15 Q. What's your job title?

16 A. Professor.

17 Q. In?

18 A. The department -- the William E. Boeing  
19 Department of Aeronautics and Astronautics.

20 Q. And Boeing, that's like Boeing the plane?

21 A. Yes.

22 Q. And was William Boeing associated with Boeing  
23 airplanes?

24 A. He started the company.

25 Q. And you're a tenured professor there?

1 A. Yes.

2 Q. Okay. And you supervise graduate students in  
3 what field?

4 A. Aerodynamics and turbulence.

5 Q. Since '74 to the present time, have you been  
6 a professor with regards to aerodynamics?

7 A. I didn't leave Cal Tech until 1980. I was a  
8 post-doc after I graduated in '79 for about a year and  
9 a half or so, and I have been at Seattle since 1980 at  
10 the University of Washington.

11 Q. So you've been teaching aerodynamics in  
12 Seattle since 1980?

13 A. Yes, sir.

14 Q. Okay. Have you also published in the area of  
15 aerodynamics?

16 A. Yes.

17 Q. And without getting into it, how many  
18 articles?

19 A. 50, 70. I don't know the exact number.

20 Q. Okay. But they all deal with aerodynamics?

21 A. Essentially all, yes.

22 Q. Okay.

23 MR. KEMP: Your Honor, we tender  
24 Dr. Breidenthal as an expert on aerodynamic  
25 engineering.



1 MR. TERRY: I have no objection to the  
2 doctor's qualifications.

3 THE COURT: Dr. Breidenthal is qualified  
4 as -- to testify as an expert in this case as to  
5 aerodynamics.

6 BY MR. KEMP:

7 Q. Now, Doctor, have you prepared a chart that  
8 summarizes your opinions in this case?

9 A. Yes.

10 Q. Okay. And these opinions are given to a  
11 reasonable degree of aerodynamic certainty?

12 A. Yes.

13 Q. So let's try to give the jury an overview.  
14 What is your first opinion?

15 A. The subject bus, the -- the J4500, has,  
16 really, two major aerodynamic problems.

17 The corners are too sharp at the front, and,  
18 exacerbating that, the window frame molding is placed  
19 right at that corner, which makes the effective  
20 sharpness even greater.

21 MR. KEMP: Shane, can I have the first one up  
22 there.

23 BY MR. KEMP:

24 Q. Let's get them all out, Doctor, and then  
25 we'll break them down a little bit. Okay?

1           And, Shane, can you pop the first one up.

2           All right. And what is your second major  
3 opinion?

4           A. The J4500 has the -- the windshield frame  
5 molding right in the vicinity of the corner, which is,  
6 again, part of this aerodynamic sin of having too sharp  
7 a corner radius, the same as the MCI CJ3 bus.

8           Q. Okay. And what is your third major opinion?

9           Have we got the second one? Yeah.

10          A. I estimate that the J4500 produces about a  
11 10-pound push force away from itself for a length  
12 that's within 3 feet for the conditions of a  
13 25-mile-an-hour bus and a 13 1/2-mile-an-hour bicycle.

14          Q. Okay. And what's your fourth major opinion?

15          A. Then when the bus passes even and beyond with  
16 the bike, the J4500 causes a -- a pull force after that  
17 passage so that the bus is pulling the bike towards  
18 itself.

19          Q. Okay. And the next major opinion?

20          A. An estimate for the time duration of this  
21 oscillating push/pull force is about a quarter of a  
22 second. There are about 10 pounds of push and more --  
23 even more pounds of pull.

24          Q. And your -- your final major opinion?

25          A. It's possible to have much safer aerodynamic

1 design, which would produce much less push and  
2 completely eliminate the pull and also reduce the  
3 duration of these forces. And I estimate that the push  
4 could drop from 10 to 3 pounds, and the pull would be  
5 virtually gone. And the duration of the time with  
6 these forces being imposed on the bicyclist would drop  
7 from about a quarter of a second to .06 seconds.

8 Q. Okay. Let's go back to the first one.

9 So two major aerodynamic problems; yes?

10 A. Correct.

11 Q. And radii or -- okay. I already blew it.

12 Radii -- can we -- radii, is that -- is that  
13 radii?

14 A. Yep.

15 Q. Okay. So the radii is too sharp. What do  
16 you mean by that?

17 A. It's too tight a corner. The radius is too  
18 small. It's too sharp an edge.

19 Q. And are you referring to any specific portion  
20 of the bus when you make that criticism?

21 A. Yeah. The really critical part  
22 aerodynamically is right around the front of the bus,  
23 both along the top and, in particular, along the sides  
24 for this case.

25 Q. And why is that the critical part of the bus?

1           A.    That determines whether or not the flow  
2 continues to hug the side of the bus and stay attached  
3 or if it lifts up and separates. And that completely  
4 changes the -- the flow field along the side of the  
5 bus.

6           Q.    Okay. You've referenced two conditions:  
7 hugging the side of the bus and separating. Which is  
8 preferable?

9           A.    Preferable is hugging, for many reasons.

10          Q.    Such as?

11          A.    It reduces these push/pull forces, as I've  
12 already indicated, on the cyclist. It keeps the side  
13 of the buses cleaner. It doesn't allow dirt to migrate  
14 forward from the front tire to contaminate the outside  
15 rearview mirror. And it significantly reduces the --  
16 not only the aerodynamic noise, but it reduces the --  
17 the fuel -- the fuel consumption. It dramatically  
18 increases, especially at high speed, the -- the fuel  
19 economy of the bus.

20          Q.    Okay. And when you say not .125, what do you  
21 mean by that?

22          A.    If the radius is big enough -- that is to say  
23 a .125 or bigger compared with the diameter of the  
24 bus -- then the flow stays attached and all of these  
25 problems that I mentioned go away.

1 Q. Is the .125 good? bad? indifferent? what?

2 A. Well, it's good. It's -- you can call it an  
3 optimum radius.

4 Q. Okay. And the window frame molding being  
5 placed at the corner, what does that mean?

6 A. Well, as -- as a -- pictures have shown, the  
7 window frame molding for the subject bus sticks out  
8 from the overall contour of the bus. And it  
9 effectively provides, where it's located, an extremely  
10 sharp corner, guaranteeing if the boundary layer hasn't  
11 already separated, it will separate there.

12 Q. Okay. And when the boundary layer separates,  
13 what happens?

14 A. When the boundary layer separates, then the  
15 flow no longer follows the side of the bus, it goes  
16 away from it, and you have a strong sideways velocity  
17 component that's the push.

18 And then, because the separated flow for a  
19 long bus will eventually reattach with the side of the  
20 bus, that guarantees that there will be a pull towards  
21 the bus, and the literature has shown that the pull is  
22 even greater than the push.

23 Q. Okay.

24 Why don't you go to the next one, please,  
25 Shane?

1           And you call this in the aerodynamic sin?

2           A.    It's an aerodynamic sin because it's -- it's  
3 completely harmful and absolutely unnecessary.

4           Q.    Okay. And the MCI CJ3, have you studied  
5 pictures and test reports of that bus?

6           A.    Yes.

7           Q.    And so the J4500, how does that compare to  
8 the CJ3 in terms of this window frame molding?

9           A.    Both window frames appear to be in the  
10 general vicinity of the corner of the bus.

11          Q.    Okay.

12                And next one, please, Shane.

13                10 pounds of push force. Okay? Push, what  
14 does that mean?

15          A.    As -- as the bus approaches the cyclist from  
16 behind, because the airflow has to go around the bus,  
17 there's initially a sideways force on the bicyclist  
18 pushing it away from the bus. So I call that push.

19          Q.    Push force?

20          A.    That's push.

21          Q.    Okay. And your 10-pound calculation  
22 generally means what?

23          A.    Well, that's an estimate of the magnitude of  
24 that force that would be suddenly applied to the  
25 cyclist as the bus overtakes the cyclist.

1 Q. That's the push force?

2 A. Correct.

3 Q. Okay.

4 Next, please, Shane.

5 And so when does the push force affect the  
6 bike?

7 A. While the bus is still somewhat behind the  
8 bike, there's initially the push force because the  
9 airflow is being deflected by the bus and it's pushing  
10 the bike away.

11 Q. Okay. And what happens when the bike and the  
12 bus come to the even point?

13 A. Then there's a complete reversal of the  
14 force. You'll recall that I talked about the  
15 separating flow, the -- initially, the flow separates  
16 if the corner is too sharp. That exacerbates the  
17 magnitude of the push force. And because that flow  
18 eventually reattaches with the long bus, that  
19 guarantees that there has to be a pull force later.

20 But if you can eliminate that separation,  
21 then you never have any reattachment and you never have  
22 any pull because there's no reattachment.

23 Q. Okay. But the J4500 does or does not have a  
24 pull?

25 A. It does.

1 Q. Okay. All right.

2 Next one, please.

3 And duration of the push/pull, what does that  
4 mean?

5 A. Because the bus is moving faster than the  
6 cyclist, this interaction between the bus and the  
7 cyclist only occurs for a certain amount of time. The  
8 bike has to be in a certain position with respect to  
9 the bus for there to be a push. And then, as the bus  
10 continues to overtake the bike, then the bicyclist has  
11 now moved into the region of reattachment where there's  
12 the pull. And this time interval is an estimate of how  
13 long these push/pull forces are occurring.

14 Q. Now, is the .25 seconds referring to what?

15 A. That's an estimate of about the time that you  
16 had this pair of forces, first the push and then the  
17 pull.

18 Q. So it pushes out, and then it pulls back in  
19 .25 seconds?

20 A. Approximately. That's true.

21 Q. Okay. And what does this mean, that there's  
22 more pounds of pull?

23 A. I estimated that the push was about  
24 10 pounds. The literature shows that the pull is even  
25 greater, and there's a -- there's a fairly simple



1 physical explanation for why the pull force is even  
2 greater than the push.

3 Q. And what is the simple explanation?

4 A. When the bike is being pushed away from the  
5 bus in the push phase, the velocity is away from the  
6 bus, but there's also a pressure gradient, a pressure  
7 difference, between the inside of the curve and the  
8 outside of the curve of this separated flow. Those two  
9 effects partly cancel, and that tends to relatively  
10 reduce the push force.

11 However, in the pull phase, the wind locally  
12 is towards the bus, generating a force on the bike  
13 towards the bus, pulling it towards the bus. And in  
14 addition, this pressure difference contributes to that  
15 force. And so literature shows that the pull force is  
16 about double the push force in magnitude.

17 Q. And you use -- when you use the term "wind",  
18 referring to pull force?

19 A. Right. Perhaps "wind" is an inartful term.  
20 I should have said the local speed of the airflow at  
21 that point.

22 Q. And pressure differential means what?

23 A. Even though the air is invisible in this  
24 room, there's some pressure. And if you have a  
25 strongly curved flow, like a tornado or a hurricane,

1 you always have low pressure on the inside of the  
2 curve. That's why hurricanes and tornadoes are famous  
3 for having low pressures in their cores. So the  
4 pressure is lower on the inside of the curve than on  
5 the outside. And that difference is called a pressure  
6 gradient.

7 Q. Is that why, when people have these hurricane  
8 planes, they go through the hurricane and there's a lot  
9 of turbulence and then they get inside and it's calm?

10 A. That's right. The eye of the storm is  
11 ironically very calm, and that's actually the place  
12 where the pressure is the lowest.

13 MR. KEMP: Next one, please, Shane.

14 BY MR. KEMP:

15 Q. So, the J4500 could have been designed  
16 aerodynamically safer?

17 A. Oh, yes.

18 Q. Okay. And if they had done that, what  
19 happens?

20 A. A lot of good things happen. The things  
21 pertinent to this case are the push force drops -- I  
22 estimate by about a factor of 3 -- and pull force  
23 essentially vanishes. And the pull force I regard as  
24 the more sinister of the two because it's pulling the  
25 cyclist towards the bus.

1 Q. Okay. So why would safer aerodynamic design  
2 eliminate the pull into the bus?

3 A. The pull is due to the reattachment of the  
4 flow. Well, you don't have reattachment if the flow  
5 never separated in the first place. If the front  
6 corner of the bus is sufficiently rounded, the flow  
7 smoothly follows the contour of the bus, and you never  
8 have these really strong reattaching flows. It's the  
9 reattachment that causes the pull.

10 Q. Okay. And why does the duration change with  
11 the safer aerodynamic design?

12 A. Well, you completely eliminate the entire  
13 pull phase; and, in addition, you reduce the magnitude  
14 of the push phase by about a factor of 3. So the total  
15 duration for appreciable push is reduced by a factor of  
16 about 4.

17 Q. Okay. Now you referenced a paper a minute  
18 ago?

19 A. Yes, I did.

20 Q. What paper was that?

21 A. I was referring to the Kato '81 paper.

22 MR. KEMP: Okay. And before we get into  
23 that, can I have Slide 101, Shane.

24 BY MR. KEMP:

25 Q. The jury saw this during opening statement.

1 This is kind of a relatively simplistic explanation of  
2 aerodynamics.

3 A. Yes.

4 Q. Could you kind of -- you wouldn't use this  
5 for your students; right?

6 A. Maybe the beginning students, but ....

7 Q. Can you walk us through this real quick?

8 A. Sure. Most people have stuck their hand out  
9 the windows as they're driving down the freeway pretty  
10 fast, and you can -- even though the air is  
11 transparent, it's really there, and at high speed you  
12 feel the forces on it.

13 And the force is bigger if you stick your  
14 hand out perpendicular to the flow -- this would be a  
15 bluff body -- compared with streamlining the flow.  
16 Here, the force on your hand will be much less.

17 So shape matters. And you can affect the  
18 drag by changing the shape.

19 Q. And how is it that these skiers, the relative  
20 positions, affect drag?

21 A. When the skier is standing upright, not only  
22 is the frontal area bigger, but also the body is more  
23 bluff, less streamlined. For those two reasons, the  
24 upright skier would have more drag at the same speed  
25 than a skier that's crouched in more of a teardrop

1 position. And this way, of course, you see high-speed  
2 skiers getting into that tight.

3 Q. Teardrop would be the green one?

4 A. Yes.

5 Q. Now, and then the bullet train on the left,  
6 can you generally explain why that is a good example of  
7 aerodynamic engineering?

8 A. Well, that's an extremely streamlined train,  
9 that reduces not only the drag but also the aerodynamic  
10 noise right around the cockpit area where the operator  
11 is. If you have flow separation, the turbulence makes  
12 things noisy, and that's important at high speed.

13 Q. Okay. All right. Now, the article was who?

14 A. Kato. I think that's right pronunciation.  
15 K-a-t-o.

16 Q. And where was the Kato article published?

17 A. The Society of Automotive Engineering.

18 Q. Is that a reputable journal?

19 A. Oh, yeah. That's the standard journal for  
20 publishing stuff about cars and trucks and buses.

21 Q. And was the Kato article a peer-reviewed  
22 article?

23 A. Yes.

24 Q. Have you reviewed and relied upon the Kato  
25 article?

1           A.    Yes.

2           MR. KEMP:  Your Honor, we move to admit 139.

3           MR. TERRY:  Your Honor, I have no objection  
4 that that be considered a learned treatise.

5           THE COURT:  Okay.  It will be admitted.

6           MR. KEMP:  Thank you, Your Honor.

7                   (Whereupon, Plaintiffs' Exhibit 139 was  
8 admitted into evidence.)

9 BY MR. KEMP:

10          Q.    Now, what does the Kato -- Dr. Kato report he  
11 is studying in this article?  Well, first of all, when  
12 was this article published?

13          A.    1981.

14          Q.    So this is core science, basically?

15          A.    Yes, you could call it that.

16          Q.    Okay.  And what was Dr. Kato studying in  
17 this -- in this article?

18          A.    He was studying -- and the other coauthors --  
19 the force on a bicycle being passed by a bus-type  
20 model.

21          Q.    And the title of the article is what?

22          A.    "Aerodynamic Effects to a Bicycle Caused by  
23 Passing Vehicle."

24          Q.    So he was studying the reasons why a bicycle  
25 wobbles when it's passed by a passing vehicle?

1           A.    Yes.  In fact, he even makes a comment in his  
2 paper that they could see their little bicyclist model  
3 wobble as the bus model passed it.

4           Q.    Okay.  And what did Dr. Kato find?

5           A.    He found that there was, as I've already  
6 indicated, first this push force and then later the  
7 pull force as the bus model passes the bicycle model.

8           MR. KEMP:  Okay.  Can I have 33, please.

9 BY MR. KEMP:

10          Q.    Okay.  And is this a statement from the Kato  
11 article?

12          A.    Yes.

13          Q.    Okay.  And can you just read that statement  
14 in.  And then we'll try to explain what we're talking  
15 about here.

16          A.    Sure.  The first peak of force, FY, occurs  
17 just as the front of the vehicle is even with the rear  
18 wheel of the bicycle.  And the negative value indicates  
19 that the force is in a direction away from the vehicle.

20                The second peak occurs when the vehicle is  
21 approximately even with the front of the bicycle, and  
22 the positive value tends to pull the bicycle toward the  
23 vehicle.

24          Q.    So we have a push at what point?

25          A.    The push occurs when the front of the vehicle

1 is even with the rear wheel of the bicycle.

2 Q. And Dr. Kato says there's a pull when?

3 A. When the vehicle is approximately even with  
4 the front of the bicycle.

5 Q. Okay. Do you agree with this?

6 A. Yes.

7 Q. All right. It says FY first peak and second  
8 peak. What is that? Is that push/pull?

9 A. Yeah. F stands for force, and Y stands for  
10 the direction, which is, in this case, defined as  
11 towards the bus. And so if FY is negative, that means  
12 it's a push; and if FY is positive, it means it's a  
13 pull.

14 Q. So F means force?

15 A. Force.

16 Q. And Y means, in this particular case, towards  
17 the bicyclist?

18 A. Correct.

19 Q. And then Y minus is towards the bus?

20 A. The minus direction for Y is away from the  
21 bus, and the plus direction for Y is towards the bus.

22 Q. Did Dr. Kato indicate exactly what the  
23 magnitude of the force would be?

24 A. Yes, he did.

25 MR. KEMP: Okay. Can I have my next one,



1 please.

2 BY MR. KEMP:

3 Q. Well, first, let's have his conclusion.

4 These are his conclusions; right?

5 A. Yes.

6 Q. Okay. Could you read the first one and tell  
7 me if you agree with that.

8 A. "The force acting on a stationary body  
9 (bicycle) in a direction away from the moving body  
10 (vehicle) occurs for the first time as the passing  
11 begins. The force which pulls the stationary body  
12 (bicycle) toward the moving body (vehicle) is at a  
13 maximum when the two bodies come closest."

14 And the third one is "The maximum pulling  
15 force increases markedly with the decreasing  
16 distance" -- sorry -- "with the decreasing of the  
17 distance between the two bodies (bicycle and vehicle)."

18 Q. And we have this labeled wrong. It really  
19 doesn't have anything to do with the '93 wind tunnel  
20 test?

21 A. Yeah, that's a typo. It's the '81 Kato  
22 paper.

23 Q. This is the '81 Kato paper. All right.

24 And you agree with these three conclusions?

25 A. Yes.

1 Q. Okay. And have you examined Figure 7 from  
2 the Kato paper?

3 A. Yes.

4 MR. KEMP: And can we have Figure 7, please.

5 BY MR. KEMP:

6 Q. Okay. This looks complicated.

7 A. It's really pretty simple. Let me talk you  
8 through it.

9 Q. Okay.

10 A. Think of the X axis, the horizontal axis, as  
11 time. It's labeled.

12 Q. This is time?

13 A. That's time.

14 Q. And is that why it has T here?

15 A. Correct.

16 Q. Okay.

17 A. So as the bus is approaching the bicycle from  
18 behind, we are at negative time. Zero time is when the  
19 bus and the bike are even.

20 Q. This is when they're even?

21 A. Even.

22 Q. So this is before --

23 A. Before.

24 Q. -- the passing maneuver begins?

25 A. Correct.

1 Q. Okay. And this is after the passing maneuver  
2 begins?

3 A. Correct.

4 Q. Okay. So what does this mean?

5 A. As we start off with time at the far left and  
6 then we advance time, the bus is approaching the  
7 bicycle. This CY, which is a measure of the force --  
8 and I can explain that in more detail later.

9 Q. Okay.

10 A. -- first starts going negative. And you see  
11 that negative peak or valley.

12 Q. Is that this one here?

13 A. That's correct.

14 Q. Okay.

15 A. That indicates the force is away, because  
16 it's negative, away --

17 Q. So it's pushing -- pushing the -- pushing  
18 away?

19 A. Correct.

20 Q. This is the push.

21 A. That is the push right there.

22 Q. Okay. Where is the pull?

23 A. Keep advancing time. Little bit later, the  
24 bus is now in the process of passing the bike, and that  
25 positive peak to the right of zero on the time is the

1 pull. And you'll notice --

2 Q. This is what you call positive peak?

3 A. That's correct.

4 Q. So when does the pull start?

5 A. Well, just barely after the passage. T is  
6 just barely above zero.

7 Q. What is the -- what does it mean when this  
8 one is -- I guess I call it bigger, higher, or larger,  
9 whatever you -- when this mountain is bigger than that  
10 mountain, what does that mean?

11 A. That means the peak value of the pull is  
12 higher, in this case about twice as high, as the peak  
13 value or the depth of that valley in the push.

14 Q. So if you have a 10-pound push, according to  
15 Kato, the pull would be greater?

16 A. Yeah. It would be about 20.

17 Q. Okay. And in terms of the magnitude of time,  
18 is the pull and the push the same magnitude of time?

19 A. Not quite. The width of that pull on the  
20 right, the positive mountain, is somewhat wider than  
21 the push on the left.

22 And so, from the standpoint of the effect on  
23 the cyclist, what matters is the quantity we call  
24 impulse, which is the force times the time. So pull  
25 not only has larger amplitudes so it's stronger peak

1 force, but it lasts for a long time.

2 Q. Okay. The court reporter is giving me a  
3 look, which means we don't like words like amplitude.

4 A. Sorry.

5 Q. Let's try it again. And jury understands  
6 this, but we do have a bigger audience. Okay? So  
7 let's try to -- little -- let's go to the grad student  
8 level. All right. Okay.

9 So what is the difference between this  
10 mountain and this mountain?

11 A. The mountain on the right is the pull  
12 mountain, and it's about twice as high and it's  
13 somewhat wider than that negative mountain on the left,  
14 which is the push mountain.

15 Q. And when you say it's twice as high, we  
16 measure from here to here and then from here to here to  
17 make that determination?

18 A. Correct. We measure from that horizontal  
19 axis.

20 Q. Okay. And then you say it's longer than  
21 the -- than the push mountain, pull mountain -- the  
22 pull mountain is longer?

23 A. A little bit longer and, as I said, larger.  
24 I'm not supposed to use the word "amplitude" -- larger  
25 height. And so the impulse is stronger for the pull

1 than the push.

2 Q. Okay. And do you agree with this from an  
3 aerodynamic point of view?

4 A. Yes.

5 Q. Okay. All right. That wasn't as tough as I  
6 thought.

7 Now, have you applied or attempted to apply  
8 Kato's findings to what actually occurred in this case?

9 A. Yes.

10 MR. KEMP: Okay. Can I have figure -- can I  
11 have the next slide, please, Shane.

12 BY MR. KEMP:

13 Q. I guess we're going to talk about flow.

14 All right. This is another figure from  
15 Kato's paper?

16 A. Yes.

17 Q. Okay. This looks pretty messy too. Can you  
18 explain this, starting with the top one?

19 A. Yes. This is a bird's-eye view looking down  
20 on Kato test. He has a -- well --

21 Q. This is supposed to be a bicycle?

22 A. Correct, that's a bicycle.

23 Q. This is the bluff body that he --

24 A. Right. That's the bus model. And if we  
25 start at the top -- your arm may not be long enough to

1 reach.

2 Q. I think I can do it. Okay.

3 A. So the bus is, in this case, overtaking the  
4 bicycle model with the bus to the right of -- of the  
5 bike. So it's different than in this particular.

6 Q. Okay. This is supposed to be the bus here?

7 A. Correct.

8 Q. And bus, bus, bus. Bike, bike, bike, bike.  
9 Right?

10 A. Correct.

11 Q. So this is supposed to be a sequence here, 1,  
12 2, 3, 4?

13 A. Four snapshots with the bird's-eye view  
14 looking down as the bus passes the bike.

15 Q. Okay. So this is the start at 4. The top is  
16 the start, when the bus is just catching the rear tire  
17 of the bike?

18 A. Correct.

19 Q. Okay. So what does this depict?

20 A. Well, this shows the geometry at that instant  
21 in time, which are the numbers on the column on the  
22 left. And these arrows represent --

23 Q. These arrows is what you're talking about?

24 A. Those little arrows around the bicycle model  
25 represent the flow pattern that Kato, et al., observed

1 using smoke during their test.

2 Q. Okay. They actually did this test with smoke  
3 so they can observe the --

4 A. The flow pattern.

5 Q. -- the flow pattern. And flow pattern just  
6 means pattern the air is flowing?

7 A. That's right, how the air moves as the bus  
8 passes the bike.

9 Q. Okay. So before the bus gets to the bike,  
10 the air's going in the direction of the bicyclist. Is  
11 that what that indicates?

12 A. Not exactly.

13 Q. Okay.

14 A. We're in a coordinate frame. I shouldn't use  
15 that term. We're right over the bike the whole time.  
16 The bike is just sitting there. This bird is looking  
17 straight down on the bike, and the bus is passing.

18 Q. Okay.

19 A. And you see that bigger arrow at the very top  
20 shows the bus motion that that --

21 Q. This -- this arrow?

22 A. No, the one --

23 Q. This arrow?

24 A. That one right there. So that's the bus.

25 Q. The bus is going that way. All right?



1 A. Correct.

2 Q. And then this is the -- let's move to the  
3 point -- this is where the bus is about even with the  
4 body of the bicyclist; right?

5 A. Correct.

6 Q. Okay. So how come these arrows are different  
7 than those arrows?

8 A. Because those two images correspond to  
9 different times and different positions of the moving  
10 bus, and they're showing the motion of the air as  
11 visualized by this smoke around the bicycle.

12 Q. So this air -- this represents air movement,  
13 this arrow?

14 A. Yes.

15 Q. And the air movement is in this direction?

16 A. At that point, yes.

17 Q. Okay. Now, in our case the bus actually  
18 passes on the other side of the bicycle; right?

19 A. Correct.

20 Q. With the same principles would apply in  
21 reverse?

22 A. Yes.

23 Q. All right. So can you explain what's going  
24 on in this drawing?

25 A. The bus is moving, it's displacing air, and

1 it's pushing air outward away from itself towards the  
2 bicyclist. That's this push.

3 Q. This is the push?

4 A. You're seeing the motion of the air, which is  
5 causing the push force. It's the air motion that  
6 causes the force.

7 Q. Okay. So this is when the bus is even with  
8 the body of the bicycle.

9 Okay. What's the third one indicate?

10 A. Well, the bus has now advanced to be even  
11 with the front edge of the bicycle, and you see the  
12 flow pattern has changed -- oops -- because the corner  
13 of the bus is now in a different position with respect  
14 to the bicycle, and so the flow pattern is different.

15 Q. And by "different," this is the pull?

16 A. Yes. That's -- that corresponds to a time of  
17 pull.

18 Q. So the pull -- this is -- this is indicated  
19 by what?

20 A. Well, the arrows show the motion of the air,  
21 but they don't show the pressure and the pressure  
22 differences. So you don't get complete sense of the  
23 nature of the pull just from the motion of the air  
24 because there's more to the story.

25 Q. Okay. But this is -- this is the time point

1 that the bus pulls -- pulls the bike into the bus?

2 A. Correct.

3 MR. KEMP: Okay. All right. Can I have the  
4 next in order, please, Shane.

5 BY MR. KEMP:

6 Q. So have you attempted to apply the general  
7 Kato principles to the -- to the images we have of the  
8 actual accident?

9 A. Yes, I have.

10 Q. Okay. Now, in -- assuming for the sake of  
11 argument that this is -- this shadow is Dr. Khiabani.  
12 All right?

13 A. Yes.

14 Q. And you don't know that one way or another,  
15 but I'm just asking you to assume that. Okay? At this  
16 point, the bus is approximately even or --

17 A. Well, I can't tell exactly, but it's -- it  
18 looks like it's close to even.

19 Q. Okay. So the first thing that's going to  
20 happen, according to Kato and you, is what?

21 A. The first thing that happens is the push.  
22 So -- so the force on the bike is down and to the left  
23 in this image. It's away from the bus.

24 Q. You mean from here to here?

25 A. Correct.

1 Q. Okay. That's the first thing the bicyclist  
2 will see when the passing begins; right?

3 A. That's right.

4 Q. And this is not your words. These are the  
5 words from Kato in 1981; right?

6 A. Correct.

7 Q. Okay. We're just applying the 1981 study in  
8 this case.

9 All right. Can I have the next one, Shane.

10 And the force is at a maximum when the two  
11 bodies come closest.

12 What does that mean?

13 A. I think that's referring to the lateral  
14 proximity when the --

15 Q. Okay. Stop.

16 A. Sorry.

17 Q. Lateral proximity means the distance between  
18 the bike and the bus?

19 A. Correct.

20 Q. Okay. So this -- and so if the bike is  
21 1 foot away compared to 2 feet away, is there a  
22 difference in -- in the force that the bike sees?

23 A. Yes. Pretty dramatic, in fact.

24 Q. Is that what Kato is saying here?

25 A. Yes, I believe so.

1 Q. So the closer you get, the more impact you  
2 have?

3 A. The larger the forces there. That's right.

4 Q. Let's look at the third conclusion.

5 All right. And, for the record, this is Red  
6 Rock No. 4. Okay?

7 And you see the doctor is slightly farther  
8 back here in this image?

9 A. Yes.

10 Q. The bus has passed him at this point?

11 A. Yes, I'd say so.

12 Q. Okay. And what did Kato say happens at this  
13 particular point in the bus-bike interaction?

14 A. Well, the -- the pulling is the maximum in  
15 that vicinity.

16 Q. So it says "the maximum pulling force  
17 increases markedly." What does that mean?

18 A. Well, I think, again, it's referring to  
19 this -- how close the -- the bicycle and bus are. And  
20 as the bus has just passed the bicyclist, you reach the  
21 maximum pulling force. That's that positive peak that  
22 we saw in that earlier slide.

23 Q. So this is where you have the 20 pounds of  
24 pulling force pulling the bike into the bus?

25 A. Correct.

1 Q. Okay. And -- and -- okay. Great.

2 Now, can you explain to the jury just in  
3 general, what is drag coefficient?

4 A. Drag coefficient is a way that  
5 aerodynamicists talk to each other about how big the  
6 drag forces are.

7 In general, if you measure forces on  
8 something in a wind tunnel or in flight or driving down  
9 the road, the forces depend on how fast you're going  
10 and the air density and how big the object is. In  
11 order to factor out all those influences, the drag  
12 coefficient takes the actual drag and divides it by  
13 quantities that account for how dense the air is, how  
14 fast the air is moving, and the size of the object.

15 So it's a way of talking about the pure  
16 effect of shape on the aerodynamic forces.

17 Q. Okay. And let's -- I can't remember what  
18 movie it is, but there's some movie that has a bus  
19 traveling through space.

20 A. There very well.

21 Q. "Hitchhiker's Guide to the Galaxy," maybe?

22 A. Oh, okay.

23 Q. Okay. All right. So when a bus travels  
24 through space, is there a drag coefficient?

25 A. No, because space is a very hard vacuum.

1 There's nothing there.

2 Q. All right. And when a bus travels through  
3 air, is there drag coefficient?

4 A. There is a drag.

5 Q. All right. And have you studied the MCI wind  
6 tunnel test with regards to drag coefficients of buses?

7 A. Yes, I have.

8 Q. Okay.

9 Can I have next in order, please, Shane.

10 MR. KEMP: I thought we had OS53 in here.

11 MR. GODFREY: The front page?

12 MR. KEMP: Yeah, the title page.

13 BY MR. KEMP:

14 Q. And, Doctor, let me hand you Plaintiffs'  
15 Exhibit 126, the 1993 wind tunnel test, which is  
16 already admitted.

17 A. Thank you.

18 Q. Okay. Is that what you looked at?

19 A. Yes.

20 Q. And the date of this is what?

21 A. 1993.

22 Q. And what are they doing?

23 A. They're doing wind tunnel tests of a variety  
24 of different buses.

25 Q. And this is 1993, which is almost a quarter

1 of a century before the accident in this case?

2 A. Yes.

3 Q. Okay.

4 And can I have the next in order.

5 Can you tell --

6 Okay. Next in order, please, Shane.

7 Okay. Can you tell the jury in general how  
8 they did this?

9 A. You see these two fellows inside the test  
10 section of a wind tunnel, and they're working on a wind  
11 tunnel model of a bus. And it's mounted on that black  
12 turntable. So they can actually rotate the turntable  
13 with the bus on it to measure not only what happens to  
14 the drag when the bus is aligned with the wind speed  
15 but also when the bus is yawed a little bit so that  
16 they can look at the effective crosswinds.

17 Q. So, basically, they made a model of the CJ3;  
18 yes?

19 A. Yes, in this case.

20 Q. Okay. And this is just them setting it or  
21 placing it in the wind tunnel.

22 A. Right. During the test, though, of course,  
23 all the people and their tools had better get out of  
24 there.

25 Q. And where does the wind come from?



1           A.    I think it comes from this way.  We're  
2 looking at the front end of the bus, if I'm not  
3 mistaken.

4           Q.    Okay.  I guess my question was a little  
5 more --

6           A.    Sorry.

7           Q.    There's some big fan or something that makes  
8 the wind?

9           A.    Yeah, there's a big fan.  And they pay a big  
10 electric bill to drive the fan to make the wind.

11          Q.    And how did they determine what speed the  
12 wind is going?  Is the fan calibrated?

13          A.    Oh, yes.  It's all instrumented.  They know  
14 quite accurately what the wind speed is.

15          Q.    Okay.  Did MCI test its CJ3 bus against other  
16 buses and other designs?

17          A.    Oh, yes.

18               MR. KEMP:  Can I have the next one, Shane.

19 BY MR. KEMP:

20          Q.    Okay.  So these are basically the one, two,  
21 three, four, five, six, seven, eight different shapes  
22 they tested in the wind tunnel; right?

23          A.    Yes.

24          Q.    And the first one is the MCI CJ3; correct?

25          A.    Correct.

1 Q. Next one is the Setra made by Mercedes?

2 A. Yes.

3 Q. And next one is the Prevost made by Volvo?

4 A. Volvo, yes.

5 Q. And we've thrown in another Mercedes; right?

6 A. Yes.

7 Q. Then they have the smooth CJ3. What does  
8 that mean? Proposal 1, smooth CJ3, Proposal 1?

9 A. It's a modified CJ3 with an improved front  
10 end.

11 Q. And then beveled rear. And what's Proposal 2  
12 mean?

13 A. Proposal 2 is another shape where they  
14 improved the front end of the bus aerodynamically.

15 Q. Okay.

16 Can I have the next one, please.

17 Okay. This is what they were trying to study  
18 in the wind tunnel?

19 A. Yes.

20 Q. And side force, that's just the push we've  
21 talked about before?

22 A. Not quite. This is the side force on the  
23 bus, not the side force on the bicyclist.

24 Q. Okay. All right.

25 Next in order, please, Shane.

1           So is this what MCI found when it did the  
2 wind tunnel test in 1993?

3           A.    Yes.

4           Q.    And what was -- what's "CD" mean?

5           A.    CD stands for drag coefficient.

6           Q.    Okay. And -- and what did they find that the  
7 MCI CJ3 had?

8           A.    It had a relatively high drag coefficient.  
9                I have a little trouble seeing that.

10          Q.    Doctor, I think you have a screen here on  
11 your left maybe.

12          A.    Oh, that helps a lot.

13          Q.    Okay. There we go.

14                All right. What's the drag coefficient they  
15 found for their bus, the MCI CJ3?

16          A.    0.606.

17          Q.    Okay. And you said that's relatively high?

18          A.    Yes.

19          Q.    Why is that relatively high?

20          A.    If you have a well-designed bus, as I said  
21 earlier, you can almost completely eliminate the drag  
22 from the front end. So the other remaining component  
23 of drag is from the back end of the bus. And a  
24 well-designed back end might contribute to a drag  
25 coefficient of about .2 or .25 or thereabouts.

1           So it's possible to get the total drag  
2 coefficient for a well-designed bus down to low values  
3 on the order of .3 or so, and people have done that.

4           Q.    So .3 would be good?

5           A.    Correct.

6           Q.    And .6 is bad?

7           A.    Correct.

8           Q.    Now, with regards to the thing that's called  
9 a new MCI there where it says .34 -- first of all, .34  
10 is good?

11          A.    Yes.

12          Q.    And what does the new MCI reference?

13          A.    I'm drawing a blank at the moment.

14               MR. KEMP: Can I have 57, please, Shane.

15 BY MR. KEMP:

16          A.    All right. Yeah, they looked at two  
17 different shapes, Proposal 1 and Proposal 2. And they  
18 have modified the standard MCI in, for example,  
19 Proposal 1 here by increasing the radius and curvature  
20 at the corners.

21          Q.    So this -- their bus, the CJ3, was .6, I  
22 think you said?

23          A.    .6 and change, yeah.

24          Q.    And this one was .3-something?

25          A.    Correct.

1 Q. And the difference is -- the only differences  
2 made are they're rounding the rooftop and the side of  
3 the bus? That's the only change made; right?

4 A. That's right. The corner radius is  
5 everything. And it doesn't take a big change in corner  
6 radius to make a big change in drag.

7 Q. That doesn't look like a big change, does it?

8 A. No, but the corner is the critical place.  
9 And that's where all the action is.

10 Q. And where is the corner? Let's start with  
11 the right front corner.

12 Is this the right front corner?

13 A. Yes. Yes.

14 Q. And when you say "this is where all the  
15 action is," what does that mean?

16 A. That geometry right in that vicinity  
17 determines whether or not the flow stays attached and  
18 hugs the bus as it goes downstream or whether it lifts  
19 up and separates away from the side of the bus.

20 Q. And what about the radii -- or radii -- what  
21 about the difference between the radii at the top?

22 A. Increasing the radius of the curvature,  
23 making it more rounded on the bus on the right, has the  
24 same effect as on the vertical sides of the front  
25 corners. It lowers the drag.

1 Q. So just making this change, these minor  
2 changes, could have made this from .6 to .3-something?

3 A. Yes, that's right. The front corners are  
4 the -- pretty much the whole story. They're critical.

5 Q. Okay. And this safer alternative part that  
6 we're looking at, they had this designed in when?

7 A. Well, this was published in 1993.

8 Q. Okay. So as of 1993, MCI had designed a  
9 safer alternative part for the front of the bus?

10 A. Correct.

11 Q. Okay. Do you think they did a good job in  
12 '93 when they designed this safer alternative part?

13 A. Pretty good, yeah. It's a big improvement  
14 over the -- the old one.

15 Q. Okay. Now, did the wind tunnel tests -- I  
16 believe that's Exhibit 138. Is it still in front of  
17 you?

18 Okay. Does that also show the drag  
19 coefficient differences between the standard MCI bus  
20 and the safer alternative design?

21 A. Yes.

22 MR. KEMP: Can I have my next in order,  
23 please, Shane.

24 BY MR. KEMP:

25 Q. Okay. This kind of looks like Dr. Kato's

1 report; right?

2 A. Yes. Yeah, this is out of order.

3 Q. Okay.

4 Next one, please, Shane.

5 All right. We've talked a lot about leading  
6 edge flow, and you've used the terms "flow." Is this  
7 from the MCI test report?

8 A. Yes.

9 Q. And can you indicate for the jury where, if  
10 anywhere, this leading edge flow thing you've been  
11 talking about is?

12 A. Yeah. These are both images where they're  
13 introducing smoke in the wind tunnel. So you can see  
14 the streamline.

15 Q. This is smoke?

16 A. Smoke introduced from a long wand that  
17 someone has installed or is holding. And you see the  
18 streamline pattern.

19 Q. And by streamlined -- well -- well, leading  
20 edge means leading edge the whole way down the bus?

21 A. No. Leading edge just means at the front of  
22 the bus.

23 Q. Okay. So this is the leading edge?

24 A. Well, it would be referring to the bus  
25 itself.

1 Q. Okay. This is the leading edge?

2 A. Yeah.

3 Q. Okay. I got it.

4 And this is called flow separation?

5 A. Well, in this case, the streamline follows  
6 the side of the bus. And so I would say this doesn't  
7 show flow separation. At least it's introduced far  
8 enough away that, if there is flow separation, it's not  
9 revealing it.

10 Q. This is the good design with the good radii;  
11 right?

12 A. Yes, I believe so.

13 Q. Okay. All right.

14 Can I have the next in order, Shane.

15 Now, does the test that -- the test there  
16 depict the front of the CJ3 bus that they've tested in  
17 the wind tunnel?

18 A. Yes.

19 Q. And this is the one that had the .6 bad drag  
20 coefficient; right?

21 A. Yes. That's the standard CJ3.

22 Q. Okay. So this is the front of the CJ3;  
23 right?

24 A. Yes, I believe so.

25 Q. Okay. Here are the mirrors; right? All



1 right.

2 And do we have another one, Shane, that shows  
3 the bus a little differently?

4 Okay. And, again, this picture is in the  
5 wind tunnel test report, the '93; right?

6 A. Correct.

7 Q. So this is a shot looking down on the CJ3?

8 A. That's right. This is a bird's-eye view  
9 looking down at right front corner.

10 Q. Okay. And what is this that I've just ...

11 A. That appears to be the frame holding the  
12 windshield in place.

13 Q. And where is this frame placed?

14 A. Pretty much right at the most sensitive  
15 place, that corner.

16 Q. Right here at the most sensitive. Is this a  
17 good place to put it or a bad place to put it in terms  
18 of aerodynamics?

19 A. Bad. You could hardly do worse than putting  
20 bumps right at that corner. The corner is very  
21 sensitive.

22 Q. And, again, why is that?

23 A. It's because -- it has to do with this corner  
24 radius issue that we talked about earlier. If -- if  
25 it's too sharp an edge, the flow can't handle that

1 turn, and it lifts and separates from the surface.

2 Q. And do other buses that you've analyzed place  
3 the window frame in a different location?

4 A. Yes.

5 Q. Where do they place it, or where can they  
6 place it?

7 A. Well, I think a very nice place to put it is  
8 behind the turn -- after the turn -- you know, after  
9 the turn is over.

10 Q. Okay.

11 A. That --

12 Q. Why is that a nice place to put it?

13 A. Well, because the flow has already negotiated  
14 that turn and you're not -- you're not tickling the  
15 flow at its most ticklish spot.

16 Q. And if you place it in a different place,  
17 does that affect the aerodynamics of the bus?

18 A. Yeah. Big time.

19 Q. Why is that?

20 A. Well, again, because of this flow separation.  
21 It's -- it seems incredible that such a thin layer near  
22 the body going along would have such a big effect, but  
23 if it leaves the surface, that changes the entire flow  
24 field around the bus.

25 Q. And have you compared the front of the CJ3 --

1 that MCI CJ3 in the 1993 wind tunnel test -- with the  
2 2008 J4500 in this case?

3 A. Yes.

4 Q. Okay.

5 Can I have my next one, Shane.

6 Is this the J4500 drawing that you've looked  
7 at?

8 A. Yes.

9 Q. And this was not prepared by you but by  
10 someone else?

11 A. Correct.

12 Q. Fat Pencil?

13 A. Correct.

14 Q. That's Josh's outfit?

15 A. Correct.

16 Q. Okay. All right. Does this depict the same  
17 general thing we saw in the CJ3?

18 A. Yes.

19 Q. And, again, where is the window frame in this  
20 bus, the 2008 J4500, involved in this case?

21 A. In that same sensitive spot right at the  
22 corner.

23 Q. Is this a good place to put the window frame  
24 in aerodynamic terms, or is it a bad place?

25 A. Bad.

1 Q. Why is that?

2 A. Again, because that window frame sticks up  
3 from the surface a little bit. And it effectively  
4 makes the corner radius there very sharp, causing flow  
5 separation.

6 Q. And have you compared the 1993 CJ3 with the  
7 shape of the 2008 J4500?

8 A. Yes.

9 MR. KEMP: Can I have my next one, please,  
10 Shane.

11 BY MR. KEMP:

12 Q. Is that a pretty good comparison between the  
13 two?

14 A. Yes.

15 Q. And this one comes from the wind tunnel test,  
16 the one on the left?

17 A. Correct.

18 Q. And the one on the right is laser imagery of  
19 the actual bus from -- from Fat Pencil?

20 A. Correct.

21 Q. And basically the same bus; correct?

22 A. Yeah. The contours look very similar, the  
23 location of the windshield frame is very similar.

24 Q. And would you expect both buses to have the  
25 same general aerodynamic performance?

1 A. Yes.

2 Q. Okay. And, again, this one had a .6?

3 A. And change, yeah.

4 Q. So you'd expect this one to be similar in  
5 that area?

6 A. I would.

7 Q. Okay. And by "this one," I'm referring to  
8 the 2008 J4500; correct?

9 A. Correct.

10 Q. All right. Now, have you reviewed the trial  
11 testimony of one of the bus designers, Mr. Lamothe?

12 A. Yes.

13 Q. And what did Mr. Lamothe say about the drag  
14 coefficient of a Mercedes Setra 500?

15 A. He said it was very low. If I remember  
16 correctly, the number was a CD of 0.33.

17 Q. Okay. And, you know, we've used CD. Have  
18 you prepared a chart that compares some of these drag  
19 coefficients for us?

20 A. Yes.

21 Q. Okay.

22 Can I have my next in order, please, Shane.

23 Okay. So here's the CJ3; right?

24 A. Correct.

25 Q. And that's the number from the 1993 wind

1 tunnel test?

2 A. Correct.

3 Q. Okay. And that's what you think the J4500  
4 has because of the same approximation?

5 A. Correct.

6 Q. Okay. And this is the Volvo bus as tested in  
7 the 1993 wind tunnel test; right?

8 A. Correct.

9 Q. And what is the drag coefficient for that?

10 A. .447.

11 Q. And this is the Bugatti Chiron?

12 A. Yes.

13 Q. What's the drag coefficient for that?

14 A. .38.

15 Q. And this is the safer alternative front that  
16 they developed back in 1993?

17 A. Correct.

18 Q. What is the drag coefficient for that?

19 A. .349.

20 Q. And this is the Mercedes Setra 500. What is  
21 the drag coefficient for that?

22 A. .33.

23 Q. Okay. So here we have the CJ3. How does  
24 this compare to the safer alternative front, the .6 and  
25 the .34?

1       A.    It's a big difference, especially when you  
2 remember that you're going to get a contribution from  
3 the back end of the bus of about .2 or so. And so the  
4 fact that these numbers are so different implies  
5 there's a huge change in the flow at the front end,  
6 this separation that we've been talking about.

7       Q.    Okay. Let's just compare the CJ3 with the  
8 Mercedes bus, the .6 with the .33. How would that  
9 affect the amount of push force, that change?

10       A.    I estimate by about a factor of 3, from  
11 10 pounds down to about 3.

12       Q.    So if -- if a Mercedes was -- well, strike  
13 that.

14               If a CJ3 or J4500 was passing a bike, you  
15 said the side force would be what?

16       A.    10 pounds.

17       Q.    Okay. And if a Mercedes was passing a bus,  
18 the push force would be what?

19       A.    3.

20       Q.    Now, if a CJ3 or a J4500 is passing a bike,  
21 the pull force is what?

22       A.    About double 10, or about 20.

23       Q.    And if a Setra Mercedes bus is passing a  
24 bike, the pull force is what?

25       A.    Zero. There's no reattachment, so there's no

1 reattachment force.

2 Q. So we go -- good aerodynamic design can take  
3 us from 20 pounds of pull into the bus to 0 pounds of  
4 pull into the bus. Is that what you're saying?

5 A. I am.

6 Q. Okay. Okay. And we asked MCI if they wanted  
7 to dispute this .6 drag coefficient for the J4500;  
8 right?

9 A. Yes.

10 Q. And what was their answer?

11 A. Well, they didn't -- they didn't want to do  
12 any more testing and --

13 Q. Did they do a wind tunnel --

14 MR. TERRY: Objection, Your Honor. May we  
15 approach?

16 THE COURT: Yes.

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

19 BY MR. KEMP:

20 Q. Okay. Let's just talk about MCI. Did MCI,  
21 to your knowledge, do a tunnel test on the J4500?

22 A. No.

23 MR. KEMP: Okay. Can I have my next one,  
24 please.

25 /////



1 BY MR. KEMP:

2 Q. And have you reviewed their discovery  
3 responses in this case?

4 A. Yes.

5 Q. So they said the drag coefficient is not  
6 known. That's what they said.

7 A. That's correct.

8 Q. Okay. Now, let's talk about Dr. Cooper real  
9 quick. You familiar with Dr. Cooper?

10 A. His work, yes.

11 Q. Yeah. Can I have -- and Dr. Cooper is a  
12 relatively famous aerodynamic engineer?

13 A. I think he's -- I don't know about how famous  
14 he is, but he's done very good work.

15 Q. He has done a lot of work with buses; right?

16 A. Yes.

17 MR. KEMP: Can I have my next one, please,  
18 Shane.

19 BY MR. KEMP:

20 Q. This is Dr. Cooper's paper. Have you  
21 reviewed that?

22 A. Yes.

23 Q. And this was done in 1985; right?

24 A. Yes.

25 Q. Okay. And can you tell the jury, just in

1 general, what Dr. Cooper did and what he found?

2 A. Well, as I had done back in '74, he looked at  
3 the effect of that front edge rounding on the drag of  
4 bluff bodies, in this case nearer the ground. And, of  
5 course, the motivation is to try to understand ground  
6 vehicles, like buses and trucks.

7 MR. KEMP: Okay. And the next one, please.

8 MR. TERRY: Excuse me, Your Honor. As a  
9 matter of form, has this been offered as a learned  
10 treatise?

11 MR. KEMP: Well, it's been admitted already,  
12 Your Honor. This was admitted on --

13 MR. TERRY: I take it back, then.

14 MR. KEMP: Thank you.

15 BY MR. KEMP:

16 Q. All right. And what does this mean, Doctor?

17 A. Cooper was interested in how big you had to  
18 make the corner radius in order to achieve this happy  
19 state of very low front -- frontal drag and attached  
20 flow. And he found that once -- and I found the same  
21 thing in my '74 test -- once the corner radius was big  
22 enough, then you get this happy condition of minimum  
23 forebody drag.

24 Q. And he refers to the optimum edge radius for  
25 the -- required for the minimum drag; right?

1 A. That's right.

2 Q. That's what we're calling corner radius?

3 A. That's right.

4 Q. All right. And did he indicate what the  
5 optimum edge radius was in this paper?

6 A. Yes, he did.

7 MR. KEMP: Can I have my next in order,  
8 please, Shane.

9 BY MR. KEMP:

10 Q. Okay. This really looks messy, Doctor. Can  
11 you just explain to me where Dr. Cooper indicated the  
12 optimum front edge radius? Let's stay away from  
13 Reynolds numbers. I don't want to get into Reynolds  
14 numbers today.

15 A. Well, the short answer is corner radius of  
16 0.125 on the middle right side, down below. Yeah.

17 Q. So this is what he found as the best, .125?

18 A. That's right. And I found the same thing.

19 Q. And -- and 11 years earlier you had found the  
20 same thing, .125?

21 A. Correct.

22 Q. And this is a published paper; right?

23 A. I'm sorry?

24 Q. This is a published paper?

25 A. Yes, it is.

1 Q. Not only that, but MCI hired Dr. Cooper to do  
2 the wind tunnel tests in 1993; correct?

3 A. Yes, I think so.

4 MR. KEMP: Next in order, Shane.

5 BY MR. KEMP:

6 Q. And what does this mean?

7 A. Well, without getting down in the weeds too  
8 much, this is just showing how the drag coefficient --  
9 that's the Y axis -- depends upon basically how fast  
10 things are going, the Reynolds number.

11 Q. Next in order, please, Shane.

12 BY MR. KEMP:

13 Q. All right. Again, this is the CJ3 from the  
14 1993 test; correct?

15 A. Yes.

16 Q. And its test was performed by whom?

17 A. The same fellow, Roberts.

18 Q. Cooper?

19 A. Or Cooper, I mean. I beg your pardon.

20 Q. So Dr. Cooper was hired by MCI to do this  
21 test?

22 A. Yes, I believe that's true. Yes, he was.

23 MR. KEMP: Okay. All right. Do we have the  
24 J4500 with the tape measure? Why don't we go back to  
25 the Fat Pencil one.

1 BY MR. KEMP:

2 Q. And, again, the -- the window frame is where,  
3 Doctor?

4 A. Well, you see where the -- it's right at  
5 the -- that front corner. You see it's just in front  
6 of where the support for the outside rearview mirror  
7 is.

8 Q. And this is the actual bus in this case?

9 A. This is the subject bus, the laser scan of  
10 the subject bus.

11 Q. So one of your criticisms is the placement of  
12 the window frame?

13 A. Correct.

14 Q. All right. Now, if a bus is traveling -- if  
15 a J4500 bus is traveling 25 miles per hour down the  
16 road, can you, as an aerodynamic engineer, calculate  
17 how much wind it will -- it will produce at its sides?

18 A. Yes. I estimated that the -- at the peak  
19 region of the push, the wind would be accelerated to  
20 40 miles an hour because the flow is going around the  
21 bus and it would be tilted at 30 degrees from its  
22 initial direction.

23 Q. Okay.

24 MR. TERRY: Excuse me, Your Honor.  
25 Objection. Not responsive. The question was

1 calculate; the answer was estimate.

2 THE COURT: Sustained.

3 BY MR. KEMP:

4 Q. Can you calculate or estimate the wind speed  
5 of a 25-mile-per-hour bus?

6 MR. TERRY: Objection. Compound question.

7 THE COURT: Sustained.

8 BY MR. KEMP:

9 Q. Can you estimate the wind speed of a 24 --  
10 25-mile-per-hour bus?

11 A. Yes.

12 Q. And have you done that in this case?

13 A. I have.

14 Q. And what is the wind speed for a J4500 around  
15 the corners moving 25 miles per hour?

16 A. I estimated it's about 40 miles an hour,  
17 tilted about 30 degrees.

18 Q. So when you say 30 degrees, you're saying  
19 coming -- coming at a 30-degree angle where?

20 A. 30 degrees from where it was initially  
21 headed. So if it was -- it was approaching the bus  
22 along the bus center line, it's tilted 30 degrees  
23 towards, say, the left side of the bus.

24 Q. Okay. Why don't we use this side. So are  
25 you saying --

1 A. Okay.

2 Q. -- like this? Is this what you're saying?

3 A. Yes.

4 Q. Okay. Let me try to do it on the other side  
5 so the jury can see what I'm saying. You want to come  
6 down here two seconds so the -- so you are -- what  
7 you're saying, is that about 30 degrees?

8 A. I would say a little bit more would be 30,  
9 more about like that.

10 Q. So you're saying that's what the airflow is?

11 A. Correct. That's my estimate.

12 Q. And that's about how many miles per hour?

13 A. 40.

14 Q. How is it the bus, that's only moving  
15 25 miles an hour, could produce airflow going 40 miles  
16 an hour?

17 A. The flow has to accelerate going around this  
18 object. So it not only changes direction 30 degrees,  
19 but it also goes faster.

20 Q. So this is the push you're talking about?

21 A. Yeah. It's this sideways component of  
22 this -- of this flow which causes the push.

23 Q. And using the tires as a point of reference,  
24 where does the pull start pulling you back into the  
25 bus?

1 A. Well, when the bicyclist is immediately --

2 Q. Adjacent?

3 A. -- adjacent and right at that corner, you're  
4 starting to get the pull.

5 Q. And how many pounds of pull would that be?

6 A. I estimated, based on Kato's paper, about  
7 20 pounds of pull.

8 Q. Okay. And that's based on a bus and a  
9 bicycle moving what speeds? Go ahead, Doctor. You can  
10 take your seat.

11 A. The bus moving at 25 miles an hour and the  
12 bicycle moving at 13 1/2 miles an hour.

13 Q. Okay. And does the -- the exposure to the  
14 push and the pull, is that longer for a moving bicycle  
15 or a stationary bicycle?

16 A. It's longer for a moving bicycle because the  
17 bicycle is hanging around that critical front corner  
18 longer if it's moving along in the same direction as  
19 the bus.

20 Q. Is there a concept called relative wind?

21 A. Yes.

22 Q. What does that mean?

23 A. Relative wind is the -- is the speed of the  
24 wind with respect to an object, say, a bicyclist.

25 Q. Okay. And so, if the bus is going 25 and the



1 bicyclist is going 13 1/2 miles an hour, what is the  
2 relative wind?

3 A. Well, when the bicyclist is at the location  
4 of peak push, I estimate the relative wind as 40 miles  
5 an hour on the bicyclist due to the acceleration of the  
6 flow around the bus.

7 Q. Can you determine the length of time in terms  
8 of feet that the bicyclist is exposed to the push and  
9 pull if the bus is going 25 and the bike is going 35?

10 A. Yes.

11 Q. What is that length?

12 A. It's's the order of 10 feet, depending on how  
13 you define where the edges of those peaks are.

14 Q. And is that figure also found in the Kato  
15 paper?

16 A. Yes.

17 MR. KEMP: Can I have Kato Figure 7, please.

18 BY MR. KEMP:

19 Q. Where is that in here?

20 A. The 10 feet corresponds to about a value  
21 minus 1 on that horizontal axis there where -- to  
22 about -- well, maybe 1.3 on the positive axis,  
23 something like that.

24 Q. So this is about 10 feet at 25 miles an hour?

25 A. Roughly speaking.

1 Q. Okay. That's where you get the push and the  
2 pull; correct?

3 A. Correct. Correct.

4 Q. Now, I think you've said before that a bus  
5 that was designed appropriately aerodynamically, such  
6 as the Mercedes, would have no pull.

7 A. That's right.

8 Q. Why is that?

9 A. The pull is due to the -- the flow  
10 reattaching. There's no reattachment if the flow has  
11 never left the side of the bus in the first place.

12 Q. Okay. So instead of the 20 pounds of pull we  
13 saw in this case, what pull would you see, for example,  
14 using a Mercedes Setra 500?

15 A. Zero. Essentially zero.

16 Q. Okay. All right. And have you looked at  
17 some testing done by an MCI-retained expert named  
18 Granat?

19 A. Yes.

20 Q. And have you -- have you examined his testing  
21 where he drives a bus by a stationary bike?

22 A. Yes.

23 Q. And is that a different or the same exposure  
24 time as what we had in this case?

25 A. Sorry. I didn't quite --

1 Q. Is that the different or the same exposure  
2 time as what we had in this case, Granat's testing?

3 A. Yes. He -- he reports that he -- he saw both  
4 the negative peak and the positive --

5 Q. Don't tell me what he saw. Was it the same  
6 exposure time if you have a stationary bike and a  
7 moving bike?

8 A. Oh. Now I understand. Yes, he -- he looked  
9 at with a stationary bike, and so the exposure time  
10 that the cyclist would experience the forces is more  
11 than a factor of 2 less than if the bicycle was moving.

12 Q. Okay. So he would underestimate with that  
13 test or overestimate the forces?

14 A. He would -- his -- he would underestimate the  
15 duration of the forces the magnitude -- the height of  
16 the peaks are also underestimated because he used the  
17 massive cyclist model.

18 Q. And in your view, does the Granat testing --  
19 is that substantially similar to what we have here, to  
20 what actually happened here?

21 A. Well, his results are not -- are corrupted by  
22 the fact that he used the very heavy cyclist model.  
23 And so the magnitude of these forces that Kato sees are  
24 almost completely missing from Granat's measurements.

25 Q. And when you say he used a heavy cyclist

1 model, what are you talking about?

2 A. He had a dummy mounted on a bicycle, and he  
3 points out in his report that he made sure that the  
4 dummy had the same weight as the victim in this tragic  
5 case.

6 And the flaw in that -- and it really is a  
7 big mistake. The flaw is that he measured the forces  
8 on this cyclist using a strain gauge, which is a small  
9 electrical thing that measures strain or -- or motion  
10 of the -- of the cyclist model.

11 When you use a massive model, because it  
12 takes a long time for something massive to start moving  
13 and because these forces occur for such short times,  
14 there's no time for his diagnostics to record the real  
15 fluctuating, rapidly changing forces.

16 So he reports that he sees very weak forces,  
17 much weaker than Kato and much weaker than my estimate.

18 Q. Okay. Let's -- let me see if I can  
19 understand what you're saying. So let's say we took a  
20 marble and we shot at it with a blow dryer. That would  
21 have less resistance to the air from the blow dryer  
22 than if we shot a blow dryer at, say, a bigger object,  
23 a steelie perhaps?

24 A. That's right. Imagine a bowling ball. The  
25 inertia is a resistance to motion, and, inexplicably,

1 he had a bicycle dummy that weighed the same as the  
2 victim. And there's no reason to do that  
3 aerodynamically. The aerodynamics doesn't care about  
4 things.

5 Q. If you're trying to measure the airflow, you  
6 don't need to do that?

7 A. No.

8 Q. He shouldn't do that?

9 A. You shouldn't do it. It was a mistake.

10 Q. Why is that?

11 A. Because it screws up the measurements. His  
12 measurements are not any good for the amplitude of  
13 these peaks because he's trying to measure fluctuating  
14 forces, forces that change rapidly in time, with a  
15 system with a lot of inertia that can't respond that  
16 fast.

17 Q. Okay. Now, two days ago Mr. Terry, in  
18 questioning a witness, made a reference to a Federal  
19 Express truck being poor aerodynamic design or flat  
20 front or something. Okay?

21 Okay. Have you looked at what the  
22 aerodynamics design of Federal Express trucks are?

23 A. I have looked at pictures of them, yes.

24 MR. KEMP: Can I have the next one, please,  
25 Shane.