

UNITED STATES OF AMERICA
NATIONAL TRANSPORTATION SAFETY BOARD

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In the matter of: *
*
PUBLIC FORUM ON TRUCK AND BUS *
SAFETY: A DECADE OF PROGRESS *
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* * * * *

NTSB Conference Center
490 L'Enfant Plaza East, S.W.
Washington, D.C. 20694

Wednesday,
May 11, 2011

The above-entitled matter came on for hearing, pursuant
to notice, at 8:00 a.m.

BEFORE: ROBERT L. SUMWALT, Chairman

APPEARANCES:

ROBERT L. SUMWALT, Forum Chairman

Technical Panel:

RAFAEL MARSHALL, Ph.D., M.P.H., Manager, Truck and Bus
Safety Forum

JANA PRICE, Ph.D., Senior Human Performance
Investigator, Office of Research and Engineering

THOMAS BARTH, Ph.D., Survival Factors Investigator,
Office of Highway Safety

MICHELE BECKJORD, Senior Survival Factors
Investigator and Project Manager, Office of Highway
Safety

DENNIS COLLINS, Senior Accident Investigator (Human
Performance), Office of Highway Safety

SHANE LACK, Senior Mechanical Engineer, Office of
Research and Engineering

ROBERT MOLLOY, Ph.D., Chief, Report Development
Division, Office of Highway Safety

JENNIFER MORRISON, Vehicle Factors Engineer, Office of
Highway Safety

KRISTIN POLAND, Ph.D., Senior Biomechanical Engineer,
Office of Research and Engineering

DAVID RAYBURN, Senior Highway Investigator, Office of
Highway Safety

Interested Parties:

Industry Table:

TIM BLUBAUGH, Truck Manufacturers Association

DAVE OSIECKI, American Trucking Associations

PETE PANTUSO, American Bus Association

RICHARD SCHWEITZER, National Private Truck Council

State Government Table:

KAREN MORTON, American Association of Motor Vehicle
Administration

STEVE KEPPLER, Commercial Vehicle Safety Alliance

WILLIAM SCHAEFER

APPEARANCES (Cont.):

Interested Parties (Cont.):

Union and Driver Associations Table:

LaMONT BYRD, International Brotherhood of Teamsters
 CALVIN STUDIVANT, United Transportation Union
 ELLEN VOIE, Women in Trucking
 TODD SPENCER, Owner-Operator Independent Drivers
 Association

Advocacy Table:

PETER NORRIS, American Automobile Association
 HENRY JANSY, Advocates for Highway and Auto Safety
 JEFFREY A. BURNS, National Transportation Counsel, Truck
 Safety Coalition
 MATTHEW BRUMBELOW, Insurance Institute for Highway
 Safety

Federal Government Table:

BRANDON HILLER, Government Accountability Office
 CLAUDE HARRIS, National Highway Traffic Safety
 Administration
 WILLIAM QUADE, Federal Motor Carrier Safety
 Administration
 DR. STEPHANIE PRATT, National Institute for Occupational
 Safety and Health
 MONIQUE EVANS, Federal Highway Administration

Subject Matter Experts:

Driver Safety:

DR. STEPHANIE PRATT, National Institute for Occupational
 Safety and Health
 TODD SPENCER, Owner-Operator Independent Drivers
 Association
 DR. RON KNIPLING, Traffic Safety and Human Factors
 Consultant
 STEPHEN EVANS, Bus Industry Safety Council

APPEARANCES (Cont.):

Subject Matter Experts (Cont.):

Driver Health:

DR. MARY D. GUNNELS, Federal Motor Carrier Safety
Administration

DR. NATALIE HARTENBAUM, OccuMedix, Inc.

ROBERT PETRANCOSTA, Con-Way Freight

Enhanced Vehicle Safety Technology - Crash Avoidance:

RICHARD CONKLIN, Bendix Commercial Vehicle Systems

ALAN KORN, Meritor WABCO

DEAN NEWELL, Maverick USA, Inc.

NATHANIEL BEUSE, National Highway Traffic Safety
Administration

Enhanced Vehicle Safety Technology - Crash Mitigation:

NICHOLAS ARTIMOVICH, Federal Highway Administration

MATTHEW BRUMBELOW, Insurance Institute for Highway
Safety

JAMES JOHNSON, Indiana Mills Manufacturing, Inc.

TIM LaFON, Volvo Trucks North America

LOUIS MOLINO, National Highway Traffic Safety
Administration

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P R O C E E D I N G S

(8:00 a.m.)

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2
3 CHAIRMAN SUMWALT: Well, good morning. And we are back
4 in session. I hope everyone slept well and hopefully you should
5 have because all of the hard questions were asked. I hope there
6 were no nagging questions that you weren't able to ask yesterday.

7 I think that yesterday we had a lot of great discussion,
8 a lot of good comments, and I appreciate the participation of
9 everyone.

10 I said when we had our organizational meeting, which not
11 everyone attended, but when we had our organizational meeting on
12 Monday, that I want to make sure that the processes are working
13 well. The parties are very important to this process and, in
14 fact, you're vital to it. More of the questions, as I said
15 yesterday, on most panels, there's more time allotted for the
16 parties to ask questions than there are for NTSB staff.

17 So I want to go around and just see, is this process
18 working of having one table spokesperson? I know it's probably a
19 little awkward, but does that work, and let's just go around the
20 room. We'll start here at the industry table. How's that working
21 out?

22 UNIDENTIFIED SPEAKER: That's fine.

23 CHAIRMAN SUMWALT: You're fine. Federal government,
24 how's it working for you all?

25 UNIDENTIFIED SPEAKER: Fine.

1 CHAIRMAN SUMWALT: Okay. How about the advocacy table?
2 How's it working back there?

3 MR. JANSY: We don't have a problem with the number of
4 speakers per table, but we do have a problem with representation
5 on the panel.

6 CHAIRMAN SUMWALT: Okay. Use your microphone, please.

7 MR. JANSY: Henry Jansy with Advocates for Highway and
8 Auto Safety. While purely the questioning part of it seems to
9 work in terms of getting questions to the panel, although I think
10 more time could be allotted, maybe both for the staff of NTSB as
11 well as the parties, the problem is that mostly we seem to see a
12 parade of industry spokespeople who are experts but they're not
13 the only experts on these issues, and they do present by and large
14 industry positions which are not necessarily countered. This was
15 I think particularly a problem during yesterday's second panel,
16 when the hours of service rule was discussed. It's a pending and
17 controversial matter, but the only people who were able to hold
18 forth and have a soapbox were industry spokespeople and, of
19 course, the representative from FMCSA since it's in rulemaking
20 couldn't refute or discuss the issues that were currently under
21 rulemaking.

22 So I felt frustrated in terms of trying to ask questions
23 that were trying to get to data or information that either wasn't
24 previously put in the record or information that I think is
25 incorrect that was placed in the record, and it did seem somewhat

1 lopsided in making those presentations. So I raise an issue that
2 there's not all sides being heard from in these panels.

3 CHAIRMAN SUMWALT: Well, thank you. I appreciate your
4 information on that, and I appreciate your candor. And really,
5 what we want to find out, is the process working for the parties
6 in asking questions and yet we got another point raised there,
7 which is a good one, and the panels have been selected long in
8 advance.

9 This is fact-finding forum. It's not the be all, end
10 all for what's being said on these topics. So you have the
11 ability to question the witnesses -- I'm sorry, the subject matter
12 experts. Everybody who is seated at these tables can ask the
13 subject matter experts, the panelists, for additional
14 clarification or obviously if something is in a rulemaking
15 process, they're in that ex parte communications period where they
16 can't comment on it, but that's why we have parties to make sure -
17 - I said this at least twice yesterday. The reason we have
18 parties is to make sure that the right questions are being asked
19 and answered, and that's your responsibility, if you feel like
20 somebody's making the wrong point, then we would hope that you
21 would come in and ask the questions and ask for clarification on
22 that. Does that make sense?

23 MR. JANSY: It makes sense, but it doesn't work. I
24 tried to do that yesterday. The problem is when I make my points
25 and I have to make it as part of a question, it's sort of like

1 Jeopardy. The only person up there who can answer it is an
2 industry spokesperson who will give the answer that they want. So
3 it's not evenly matched.

4 CHAIRMAN SUMWALT: Dr. Pratt, you're with industry,
5 right? NIOSH, is it industry or is it an advocacy organization?

6 DR. PRATT: NIOSH is the federal government.

7 CHAIRMAN SUMWALT: It's the federal government. Okay.
8 Well, I would say that probably not everybody up there is
9 industry, but I hear what you're saying. These panels have been
10 pre-selected. This forum has been on the agenda now -- it's been
11 announced publicly now for a long time, and so -- but, you know
12 what? I asked for input. You gave it to me, and I appreciate
13 that. And what I want to find out is can we use the party process
14 any differently than we're currently using it? That's what we can
15 change right now. We can't change what the agenda is, what the
16 lineup of the panelists is. And so let me point this out, too.

17 This, and I've said this a couple of times, said this in
18 the organizational meeting on Monday. I'm not sure you were here
19 on Monday; were you?

20 MR. JANSY: Yes, I was.

21 CHAIRMAN SUMWALT: Every party here has the opportunity
22 to make a party submission, and the deadline for that, the cutoff
23 for that is going to be June 15th. So this is a fact-finding
24 session. This is not the end of everything. We want to get
25 information, and so you have the opportunity based on what you're

1 hearing here to make a submission and counter things that you're
2 not hearing, that aren't being said accurately, but I very much
3 appreciate your input. I asked for it.

4 Now, the question is, can we change the way that we're
5 doing the questioning? I don't know how we can, and the question
6 is, is it working out for one person to be the questioner from
7 each table? Does that work for you, Mr. Jansy?

8 MR. JANSY: I don't have a problem with the format of
9 having on questioner reading questions.

10 CHAIRMAN SUMWALT: Okay.

11 MR. JANSY: That works well, but I think that maybe if
12 there are issues that come up where one of the parties want to
13 correct the record or make a statement, there should be an ability
14 to start off by adding an extra couple of minutes for statements
15 by the parties.

16 CHAIRMAN SUMWALT: Well, we don't want statements from
17 the parties, that we don't, but if something is being said that's
18 inaccurate, I would hope that you would make that point.

19 MR. JANSY: Well, how do I do that without making a
20 statement? By putting it into the form of a question?

21 CHAIRMAN SUMWALT: Well, you can --

22 MR. JANSY: For example, there was a question asked
23 yesterday about this 20 percent finding in Australia, that 20
24 percent of people on motor coaches use seatbelts, and that was
25 based on a statement in testimony given by the deputy

1 administrator of NHTSA. I've read that study, and it does not do
2 anything like find that 20 percent of people on motor coaches in
3 Australia use seatbelts. It was based on one crash. That now has
4 become sort of mythology or it's been raised, and it was put in
5 the form of a question to Mr. Jordan, who said that he believe
6 that on his buses there's a 35 percent rate, although he admitted
7 that he had no data to support that.

8 CHAIRMAN SUMWALT: Right. Okay.

9 MR. JANSY: I had no opportunity to come back and say,
10 well, I've read that study and it doesn't say that.

11 CHAIRMAN SUMWALT: Okay. Here's what I'd recommend, and
12 I want everybody in the parties to understand this. We want you
13 to make party submissions, if there's additional information,
14 things that need to be corrected. The party submissions will
15 receive as much attention as will the testimony that's being
16 stated for yesterday and today. That is one additional way for
17 you to get into the record your views. So I want you to keep that
18 in mind moving forward.

19 Anything else? So you're saying that as far as the way
20 that the party tables are working, that's working for you.

21 Okay. How's it working for the next table?

22 UNIDENTIFIED SPEAKER: Okay.

23 CHAIRMAN SUMWALT: Okay. And finally on state
24 governments?

25 UNIDENTIFIED SPEAKER: Fine.

1 CHAIRMAN SUMWALT: Okay. Great. We're going to keep
2 that in place and -- I was concerned about that. As I've said
3 before, I've been on your side of the table. I was a party member
4 on a couple of hearings and forums that the NTSB put on in years
5 past. So good. We're fine there. I hear what you're saying, and
6 I appreciate it. Please make a party submission.

7 MR. JANSY: May I just make one last statement? I
8 understand your position in making a submission, and we do that
9 all the time. I filed nearly a thousand comments with regulatory
10 dockets over 25 years. The right to make a submission is not
11 equal to the ability to speak on the record at this forum in front
12 of your entire staff and in front of the media and the public who
13 are watching at home.

14 CHAIRMAN SUMWALT: Okay. Well, you've stated your
15 point, and so --

16 MR. JANSY: Mr. Chairman --

17 CHAIRMAN SUMWALT: Yes, sir.

18 MR. JANSY: -- I appreciate your allowing me to go on
19 the record and make those statements.

20 CHAIRMAN SUMWALT: I'm so glad you did. I'd much rather
21 you tell me how you feel than hear about it otherwise. So thank
22 you very much.

23 Dr. Marshall, are you ready to proceed? Thank you all
24 very much.

25 DR. MARSHALL: Yes. Thank you, Mr. Chairman. The first

1 panel of the day is on driver safety. It's objective is to
2 discuss driver crash risk factors, barriers to making safe choices
3 and approaches for increasing driver safety.

4 Our panelists are Ms. Michele Beckjord, Dr. Jana Price,
5 and Mr. Dennis Collins. Dr. Price.

6 DR. PRICE: Thank you, Dr. Marshall. I'd like to begin
7 by introducing our subject matter experts this morning. Our first
8 speaker this morning will be Dr. Stephanie Pratt, who is a
9 research health scientist at the Centers of Disease Control and
10 Prevention of the National Institute of Occupational Safety and
11 Health.

12 We will also have Dr. Ron Knipling, a consultant on
13 traffic safety and human factors. We will have Todd Spencer, the
14 executive vice president of the Owner-Operator Independent Drivers
15 Association, and finally, we will have Mr. Stephen Evans, who is
16 the vice president of safety for the Pacific Western group of
17 companies and also represents the Bus Industry Safety Council.

18 We'll begin with Dr. Pratt's presentation. You can
19 begin when you are ready. Thanks.

20 DR. PRATT: Thank you. Thank you for inviting us to
21 participate in this forum. I'm here representing the National
22 Institute for Occupational Safety and Health, NIOSH. We are part
23 of the Centers for Disease Control and Prevention, and we're the
24 federal agency that's responsible for research and recommendations
25 to prevent all kinds of work-related injury and illness. We were

1 created by the 1970 Occupational Safety and Health Act, the same
2 legislation that created OSHA. We're not really a statistical
3 agency, but we do engage in some specialized and ad hoc data
4 collections to fill gaps. Except for certifying respirators, we
5 don't have any regulatory role, although we do provide input to
6 other federal agencies for rulemaking.

7 Today I'd like to highlight some data from the
8 Department of Labor that may be less familiar to this audience.

9 Motor vehicle crashes have been the leading cause of
10 death at work in the U.S. since data collection first began around
11 1980, and the same is true for all other countries for which we
12 have data available. The primary source of data for all work-
13 related fatalities is the Census of Fatal Occupational Injuries,
14 or CFOI, collected by the Department of Labor.

15 Here motor vehicle includes collisions and non-
16 collisions, on or off public highways, and also pedestrian worker
17 fatalities.

18 Here we compare the level of risk to truck drivers with
19 all other occupations. We subset the CFOI data to fatal crashes
20 that occurred on public roadways. We included only deaths to
21 vehicle drivers or passengers, no pedestrians or non-motorists.

22 To compare rates across occupations, we are not able to
23 use vehicle miles traveled as the denominator. The reason is that
24 although we can assume that VMT by large trucks is nearly
25 exclusively work-related miles, there isn't a source that provides

1 estimates of work-related mileage for other vehicle types or for
2 other industries and occupations. So our only recourse is to use
3 employment as the denominator.

4 This slides shows the occupation groups with the highest
5 rates, and as point of reference, the rate for all workers for
6 motor vehicle crashes is about 1 death annually per 100,000
7 workers. As you can see, driver sales workers and truck drivers
8 have the second highest annual rate among all occupations, about
9 19 per 100,000, and this is second only to a catchall category
10 called motor vehicle operators, all other, which is actually quite
11 small compared to the number of workers employed as truck drivers.

12 Most of the other occupations you see here on this slide
13 would make sense as occupations that one would expect to have high
14 exposure to driving and thus high risk of crashes.

15 We also calculated a rate for transit and intercity bus
16 drivers. For the 6-year period, the average annual rate was 1.3,
17 so just slightly higher than the rate for all workers.

18 We can also compare truck transportation as an industry
19 to other industries. Here again the denominator is employment by
20 industry which is the type of business. This is across all jobs
21 in that industry, not just drivers. Again, the rate for all
22 workers is about 1 per 100,000.

23 Again, workers in the truck transportation industry have
24 the highest annual rate of motor vehicle-related fatalities at
25 work, almost 20 per 100,000.

1 Again, most of the other industries shown here involve
2 delivery of products or services, often to or from remote
3 locations, so would thus involve higher exposure to driving and
4 higher risk of crashes. You can also see, comparing this slide to
5 the previous slide, a correspondence between occupation and
6 industry, for example, truck driver, truck transportation, refuse
7 collector, waste management and so forth.

8 Here are what we see as some of the major problems in
9 data on occupational crashes. Calculating rates based on
10 employment is inadequate. What we really need is purpose of
11 journey data for workplace miles drive. Also data, on all non-
12 fatal crashes are extremely limited. So often we're forced to
13 base our conclusions on fatality data which can be misleading.

14 One change that would be helpful to us would be an
15 addition of an injury at work item to the crashworthiness data
16 system. This is probably less relevant for truck crashes than for
17 other types of crashes.

18 Next there are differences between the coding systems
19 that are used by the Department of Labor and the Department of
20 Transportation. The DOT coding is more precise, especially with
21 respect to vehicle types.

22 We have been talking with the Bureau of Labor Statistics
23 about the possibility of matching the CFOI and the FARS data case-
24 by-case to ascertain differences between the systems and to take
25 advantage of both systems. Thus far, the confidentiality

1 constraints imposed by the Department of Labor have hampered us,
2 but we are reopening discussions and we're hoping to make progress
3 in the near future.

4 Two types of data resources that have so far been
5 relatively untapped are Workers' Compensation data and company
6 level data.

7 Finally, just to highlight some NIOSH research projects
8 that are nearly completed or in progress: a mortality study of
9 independent owner-operator truck drivers, which was done in
10 cooperation with the Owner-Operator Independent Drivers
11 Association; a survey of truck driver injury and health with
12 support of FMCSA; a survey of truck driver anthropometry and
13 workspace, in which we are partnering with manufacturers and
14 standard-setting bodies to transfer data. We have funded several
15 research grants on sleep apnea, large truck ingress and egress,
16 and an occupational health and safety study of health status,
17 injury and musculoskeletal disorders. And finally, we are engaged
18 in an evaluation of a driver training program and management
19 interventions in India. Thank you.

20 DR. PRICE: Thank you very much, Dr. Pratt.

21 Dr. Knipling, we're ready for your presentation whenever
22 you are.

23 DR. KNIPLING: Good. Good morning. I'm going to give
24 you my top 10 statements on truck and bus driver safety starting
25 with number 10. (Spanish.) If you don't like broken Spanish,

1 that's the most important safety issues for large trucks are the
2 same worldwide. Last month I was at a conference in Buenos Aires,
3 900 people, and I learned that the U.S. has only 3 percent of the
4 world's road deaths, and that it will become the third largest
5 cause of death by 2030.

6 Number 9, a large portion of truck safety is rooted in
7 the context of overall traffic safety. According to Leonard
8 Evans, most car/truck crashes are precipitated by the car driver,
9 but more broadly, systemic factors, like alcohol, belt use,
10 guardrails, all these things have a huge effect on truck and bus
11 safety.

12 DR. MARSHALL: Dr. Knipling, would you please talk into
13 the mic. It would help.

14 DR. KNIPLING: Sorry. Okay. Is that better?

15 CHAIRMAN SUMWALT: Yes. I think when you move your
16 head, the mic is not in front of you.

17 DR. KNIPLING: Okay. All right. Number 8, a risk cause
18 timeline is a simple, elegant and heuristic model of crash
19 causation and prevention. You prevent crashes by proactively
20 reducing risk and by directly addressing proximal causes.

21 Number 7, there are large and enduring individual
22 differences in driver risk. About 20 percent of the drivers are
23 associated with about 50 percent of the at-fault crash risk. This
24 is naturalistic driving data where 19 percent of the drivers had
25 53 percent of the at-fault events. The good news, 81 percent of

1 the drivers only had 47 percent. And in doing individual
2 differences in driver fatigue are even more extreme, same study,
3 13 percent of the drivers, 63 percent of the drowsiness events.

4 Number 6, driver fatigue has been exaggerated as a cause
5 of truck and bus crashes. The bus estimate is from the LTCCS.
6 Asleep at the wheel was the critical reason or proximal cause of 7
7 percent of serious large truck at-fault crash involvements. That
8 was about 4 percent of all crash involvements. You hear numbers
9 like 30 to 40 percent of truck crashes are related to driver
10 fatigue. This is hearsay, urban myth. We can talk about it later
11 as to why these things get perpetuated. In contrast, decision
12 errors, 40 percent. Recognition failure is 30 percent. These are
13 the real causes of crashes.

14 Number 5, hours of service is overrated as a crash
15 countermeasure. The hours of service rules do not strongly
16 confront the strongest fatigue factors enforcing compliance
17 through, for example, the EOBRs. It doesn't change drivers or
18 greatly reduce their fatigue.

19 Number 4, although both are important, correctly
20 assessing drivers is more important than trying to improve them.
21 I surprise myself by saying this, but it's not just me. We took a
22 survey -- some people in this room were respondents -- and asked
23 what activities were most important, training, selection, company
24 communications, driver evaluation, rewards and punishments. The
25 assessment activities were rated as the most important activities,

1 much higher than the change activities.

2 Number 3, behavior trumps performance. You know, we
3 talk so much about performance limitations, medical, medications,
4 fatigue, important, but much more important are the voluntary
5 choices reflecting driver personality, risk perception and so
6 forth.

7 Number 2, our primary driver safety strategies should
8 shift from restricting all drivers to first identifying and
9 removing the bad drivers, while fostering the many good drivers,
10 including giving them more autonomy and flexibility. By the way,
11 CSA is definitely a step in the right direction here.

12 Number 1, strongest driver and carrier safety motivators
13 are internal and beyond compliance. Every good driver and good
14 carrier, almost every good driver and good carrier, and that's
15 most of them, is on a safety journey. They're raising their level
16 of safety, but also they're internalizing these values. It goes
17 from complying and external motivation to an internal, intrinsic
18 motivation.

19 And, number 0, thank you for your attention.

20 DR. PRICE: Thank you very much, Dr. Knipling.

21 Mr. Spencer, I understand that you don't have a
22 PowerPoint presentation, but would you like to make a statement to
23 the group?

24 MR. SPENCER: I would, and I would also like to point
25 out for the record, that I really enjoyed Ron's commentary. I'd

1 like to hear more of his broken Spanish.

2 Anyway, this particular topic obviously can cover a
3 broad, broad range of issues certainly, and obviously for optimum
4 highway safety, there are many, many players and many, many
5 factors.

6 One of the things that, you know, we note with interest
7 that is irrefutable is that when it comes to commercial vehicle
8 accidents, commercial vehicle crashes, the training and experience
9 of the drivers is certainly key to minimizing those kinds of
10 events. And, you know, the way the current system -- the way the
11 current system works and, you know, I do know that the way the
12 current system works is just really crazy, and anybody could be
13 reminded of that just periodically. I noticed news headlines from
14 an accident that took place out West where a driver, who had been
15 in trucking for 2 weeks, was behind the wheel, and he believed
16 incorrectly that he was going up hills. He was disoriented from
17 the experience. It's in the middle of the night. He's going 5 to
18 10 miles per hour and another truck going 65 miles an hour slams
19 into the back of him. It killed the driver of the truck that ran
20 into the back of the slow moving vehicle, but the driver
21 instructor for this trainee driver was in the bunk asleep, which
22 is basically how instruction is given to new drivers when the
23 commercial fleets do that.

24 Now, obviously, a sleeping instructor can't provide any
25 instruction to a newbie driver at all, and obviously the

1 consequences can be catastrophic. That shouldn't be acceptable,
2 but it certainly has become pretty much the norm.

3 For drivers, you know, we still live in a just-in-time
4 world and most of America's commerce moves on trucks. Scheduling
5 is a key factor. You know, I've mentioned previously at this
6 conference, that drivers basically have minimal control over their
7 schedules. They work around everyone else's. One of the key
8 economic evolutions taking place in trucking is that more and more
9 transportation moves through third parties, transportation
10 intermediaries, brokers. And, of course, the brokers make their
11 money by simply getting as much as they can from whoever's paying
12 the freight bill, the shipper, in getting that cargo moved by a
13 truck line or someone else for as little as they can. So it's
14 certainly in their economic interest to bargain aggressively.

15 One of the tools that they use is they will bargain on a
16 load to get a load moved until the last possible minute, trying to
17 find the cheapest carrier. And obviously, time that the driver
18 could have used to safely and compliantly make a trip is
19 compressed where that's all but impossible.

20 One of the evolutions we've seen, again we have an
21 economically aggressive world that we live in. Too many receivers
22 have turned the loading and unloading process into a profit
23 center. They collect profits by various different ways. One of
24 the ones I find most outrageous is some of our big grocery
25 warehouses will fine drivers \$500 for being late, 500 bucks, and I

1 mean, that's going to come out of a driver's pocket. One of the
2 other cute things that they do is lumping, is supposed to be
3 against the law according to the 1980 Motor Carrier Act, but what
4 receivers will do is they'll put a responsibility on drivers that
5 if you're not certified to run our electric equipment at our
6 facility, you have to use a hand jack to unload cargo. Now a hand
7 jack is -- we're talking about pallets that could weigh 2,000
8 pounds. Now, obviously, that's pressure on drivers, but a 2,000
9 pound pallet with hand jack actually can injure the driver. And
10 as mentioned, the loading and unloading situation is very unsafe
11 for drivers, you know, whether it's slips and falls or unrealistic
12 demands on them.

13 Now, the alternative to using that hand jack is to pay
14 \$150 to a lumping service, which again those things should not be
15 permissible, but increasingly, they're becoming the industry norm.
16 Some of the solutions, and I notice I'm almost out of time,
17 obviously we support driver training. We support graduated
18 licensing, and the overwhelming majority of truck drivers believe
19 there ought to be at least 6 months of actually on-the-job
20 training for truck drivers before they could ever get a commercial
21 driver's license. We support driver training for our kids, for
22 new drivers. It's unconscionable that we know this is the leading
23 cause of deaths of our kids, yet we sort of hold up our hands and
24 say it doesn't matter. Well, if it doesn't matter, we're not
25 doing it the correct way.

1 And I noticed I'm out of time. So --

2 DR. PRICE: Thank you, Mr. Spencer.

3 MR. SPENCER: Thank you.

4 DR. PRICE: Our final speaker of this morning's panel
5 will be Mr. Stephen Evans. Mr. Evans, you can begin with your
6 presentation whenever you're ready.

7 MR. EVANS: Good morning, and thank you for involving
8 us. My name again is Stephen Evans. I'm the vice president of
9 safety with the Pacific Western group of companies. We operate
10 approximately 3,000 motor coaches, transit buses and school buses
11 in many communities across Canada and into the U.S. a little bit
12 as well.

13 I also serve on the executive of the Bus Industry Safety
14 Council, which is part of the American Bus Association. We meet
15 in January and June of each year. We have about 200 industry
16 leaders who meet in a variety of committees to examine and to do
17 research and work on some of these important safety issues and
18 provide feedback both to our members and to industry and
19 government agencies, and again we welcome the opportunity to
20 participate in this forum.

21 Crash research seems to indicate over and over again
22 that 90 percent of collisions results from unsafe acts. It's
23 drivers making mistakes, not technical issues, that seem to be the
24 main reason that we have crashes.

25 Despite our best intentions, all of us make mistakes.

1 It's normal human behavior, and I think it's important to point
2 out that particularly for drivers that making mistakes is almost
3 never intentional. It's just part of who we are and what we do.
4 And mistakes are not random acts of fate. These are not just
5 things that go along with the territory of being on the road.
6 Mistakes can be predicted, they can be controlled, and they can be
7 prevented.

8 A recent study determined that commercial vehicle
9 operators make about 160 decisions per mile, and if you're doing
10 60 miles an hour, that equals almost 3 decisions a second. The
11 whole process of see, analyze, decide and act is happening over
12 and over again very quickly, and for our bus and motorcoach
13 operators, additionally they have a host of other passenger-
14 related duties and they're pretty busy people.

15 So we look to our safety experts to try and make some
16 sense of all of this and try to help us reduce our mistakes, but I
17 think we sometimes get distracted on the variety of different
18 aspects of safety. On any given time, there is the regulatory
19 compliance part, which we heard a fair bit about yesterday. There
20 is the liability insurance part where people are looking for who's
21 at fault, who's going to pay, who's to blame.

22 The public interest, we obviously want to make sure that
23 we address public concerns when they're aware of something that
24 they feel impacts them. And then we have internal programs,
25 safety policies, programs and what have you, which sometimes end

1 up also focusing on blame rather than finding ways to prevent
2 these from occurring.

3 We're further hampered, I think, in transportation
4 safety in that there are not many materials in our industry. Most
5 of the stuff that we use, most of the materials and resources that
6 we use are based on occupational health and safety and, of course,
7 our workplace is not a traditional workplace, and so they don't
8 always fit very well.

9 We find often that carriers overlook some of the minor
10 collisions and quite often don't have near misses on their radar
11 at all, and then when a major crash happens, they knee jerk with
12 additional pages and pages of rules and regulations or they buy a
13 generic program off the shelf. And the problem with that approach
14 is that we end up having a big disconnect between the company and
15 the real world. We end up with two companies in effect: one,
16 pages, sometimes 4 or 5, 6 inches, of manuals describing what it
17 is that we say we do; and then we have the real world that the
18 rest of the staff work in. And that's I think one of the most
19 common observations as I've read investigations over the years, is
20 that the company said one thing but did something else.

21 One of my favorite reality TV shows highlights this
22 disconnect. It takes a boss and puts him in some kind of
23 undercover scenario, dresses them up and they go out into the
24 organization to find out what the organization's about. And they
25 often find -- in fact, every single time, that they find that

1 there's a big disconnect between what they thought the company was
2 about and what the company did and what's happening on the front
3 line. And I believe that solving this disconnect with our drivers
4 holds the key to reducing driver mistakes.

5 It's been said that commercial vehicle operators are the
6 last unsupervised workforce in our country, and I think that's
7 true. In the past, traditionally, the only thing that we have
8 held drivers accountable for is to pick up and deliver the load on
9 time. All the rest of the performance issues have tended not to
10 be on the radar.

11 And so I would submit that I believe connecting with
12 drivers, narrowing the gap between what we say and what we do, and
13 more effectively managing them, dealing with a wider range of
14 performance issues will be the key to reducing the mistakes that
15 are leading to crashes. Thank you very much.

16 DR. PRICE: Thank you, Mr. Evans. At this point, I
17 would like to ask Ms. Beckjord to lead the questioning.

18 MS. BECKJORD: Good morning. I'd like to start with
19 Dr. Pratt. One of our first questions is, in looking at all the
20 data that you have collected, is there enough data for you show
21 risk between the different age groups among the truck driver
22 population for some of the on-the-job fatalities that you've seen?

23 DR. PRATT: We do have data from the Bureau of Labor
24 Statistics that allows us to assess risk by age. For workers in
25 all occupations, there's a linear increase by age with the

1 youngest workers, age 18 to 24, at the lowest risk; workers 65 and
2 older at the highest risk. The same is true of driver sales
3 workers and truck drivers, but at a much greater order of
4 magnitude. Again, we're using data based on employment. We're
5 not using data based by exposure.

6 MS. BECKJORD: Thank you. And I just have one more
7 follow-up question for you. So you spoke briefly about some of
8 the studies that you were relying on for your information. When
9 does NIOSH expect to publish the results from your case-specific
10 study of mortality that you did with the Owner-Operator
11 Independent Drivers Association?

12 DR. PRATT: That study has, in fact, already been
13 published, and we can submit that to the docket for this forum.
14 Briefly, what it started out to be was a study of excess mortality
15 from disease causes. This was not an occupational safety study
16 per se. It was looking at membership data from the Owner-Operator
17 Independent Drivers Association based on concerns of the
18 Association that their workers were dying of particular diseases
19 not long after retirement. So what we did was ascertain the vital
20 status of those members and assess whether their risk of dying
21 from particular causes was greater than the general population.

22 We were looking specifically for cancer and
23 cardiovascular disease. What we found was highway crashes. That
24 was the only cause where there was a significantly greater risk of
25 death after retirement.

1 MS. PRICE: Thank you. Dr. Knipling, I'd like to ask
2 you a few questions now.

3 Firstly, based on your research and experience what
4 would you consider to be some of the top predictors of commercial
5 driver crash involvement?

6 DR. KNIPLING: You have personality and aggressive risk
7 taking, unconscious sensation seeking. These are all personality
8 variables that have been highly studied and correlated with crash
9 involvement. You know, you see these factors in larger studies,
10 not in individual investigations by the way, because if you have a
11 sample of one, it's hard to index that person's personality, I
12 realize that.

13 Attitudes, risk perception closely relate to
14 personality. And then, of course, you do have, you know, medical,
15 medical conditions. Behavioral history is an indicator which sort
16 of reflects the personality and attitude kind of things.

17 Actual physical performance is not a predictor. You
18 know, you don't have to have a fast reaction time or manual
19 dexterity.

20 MS. PRICE: Well, as a follow-up question to that, then,
21 especially -- it's interesting to hear you say that the research
22 or maybe more epidemiological approaches help you to understand
23 what the risk factors are. What would you recommend or what do
24 you think are ways that individual carriers can use that
25 information in their one-on-one operations to either make choices

1 about drivers or to remediate drivers who may have problems?

2 DR. KNIPLING: Well, let me talk about remediation
3 first. I'm a big believer in onboard safety monitoring, and the
4 evaluation component I talked about briefly in my talk, I think
5 that's the best way to evaluate drivers and to give them feedback
6 on their performance. And particularly things like hard breaking
7 and things of that nature, you've got the documentation and you've
8 got good evidence to give them feedback, and that can be positive
9 feedback as well as negative.

10 On the selection side -- we're actually finishing up a
11 TRB study that will be out in a few months, not in time for your
12 docket, but on driver selection. There's a lot of best practices
13 in selecting drivers. Some of it is just common sense, things
14 that maybe aren't always done, though: a nice in-depth interview,
15 structured, so you're getting the same information from all
16 drivers; a road and range test. I do believe that personality and
17 attitude inventories can be helpful, but they're not quite there
18 yet as far as, you know, validated tools which the industry can
19 use. But one company, for example, just looked at their --
20 validated against their best drivers and got a profile of
21 interests and attitudes and then used that to select drivers. I
22 thought that was very effective.

23 MS. PRICE: Thank you very much.

24 Mr. Collins, would you like to continue with
25 questioning?

1 MR. COLLINS: Thank you.

2 Mr. Spencer, simple question, or it could be. In the
3 last 10 years, what do you think has had the greatest impact on
4 driver safety, either positive or negative, and why?

5 MR. SPENCER: The last 10 years. Well, I think we've
6 actually seen a combination of things. One that I note with
7 interest is that more and more states moved toward uniform speed
8 limits. Speed differentials is always the greatest factor when
9 speed relates to accidents. It makes a driver's life somewhat
10 easier to move up and down the road. I think, in general, we've
11 seen improvements from state departments in terms of how well they
12 can clear roads with snow and things like that, things that
13 contribute to accident situations. I think certainly many of our
14 drivers have become better at estimating, judging the actions of
15 other vehicles that they share the road with.

16 You know, on the downside, we continue to see less and
17 less opportunities for drivers to be able to get off the road to
18 sleep, to take breaks when they need it. You know, part of that's
19 related to this trend of closing rest areas. And, of course, I
20 mentioned rest areas, but rest areas aren't even the preferred
21 place for drivers to sleep; they prefer to sleep in truck stops.
22 But our economy basically squeezes truck stop operators and
23 squeezes, I suppose, the attraction for those kinds of facilities.
24 So those challenges have become greater at the same time hours of
25 service regulations that drivers drive under have become certainly

1 more restricted to the extent that they discourage drivers from
2 taking naps when they should. And, you know, we've heard and we
3 continue to hear that technology and compliance with hours of
4 service regulations certainly looks good, but it isn't necessarily
5 the answer to resolving fatigue issues for drivers, or for that
6 matter, anyone else.

7 I mean, drivers are going to be human beings and their
8 situations are such that, you know, they get sleep and they need
9 to take naps. They don't need 8 or 10 hours but an hour or 2.
10 Kind of the environment that they live in is -- again, they work
11 around everyone else's schedule. We talk about health issues.
12 The biggest health issue for drivers is going to be stress, and
13 there are lots and lots of contributors.

14 What drivers will almost always try to do, if they have
15 a morning delivery, they try to get where they're going after
16 traffic calms down in the evening and so they can get where
17 they're going and sleep. Now, oftentimes that's simply not
18 possible for them to do that but they try simply because they want
19 to make certain that they're on time. And in lots of instances,
20 trucks are unloaded simply as wherever you are in the line, so --
21 and those are real, real challenges that drivers have to deal
22 with.

23 MR. COLLINS: Thank you. And in your remarks earlier,
24 you mentioned that you support the idea of driver training. I'm
25 just curious, what action would you like to see at the federal

1 level, the state level or at the industry level in order to move
2 in that direction?

3 MR. SPENCER: Actually, I'd say any action at all, and
4 just -- Congress directed the -- then it was the Office of Motor
5 Carriers inside FHWA to come up with driver training rules and
6 systems over 20 years ago. They didn't obviously, because they
7 were getting pressure from people that were opposed to that idea.
8 But I mean this is over 20 years ago. And then they did come out
9 with a rule, a sort of rule about maybe 4 years or so right now
10 that was just really a slap in the face. It talked about training
11 on whistleblower. We're training on two or three other subjects
12 that had absolutely nothing to do with actually how you drive a
13 vehicle.

14 So at any rate, the agency, I understand, will shortly
15 come out with a rule, a proposed rule for comment. Now, you know,
16 the previous Administrator told me it would be out before he was
17 gone, but I -- you know, I think they will. You know, the
18 training is certainly a starting point. You know, we do need to
19 go beyond that. I mean, there clearly ought to be graduated
20 licensing. There needs to be some kind of a real on-the-job
21 training. I mean, we recognize that drivers are the key. Now,
22 obviously, they lack the support system that they really need to
23 be the safest and the best but, you know, obviously, comprehensive
24 training that really follows through would be a tremendous start.

25 MR. COLLINS: Thank you.

1 DR. PRICE: Mr. Evans, I'd just like to ask you a couple
2 of a questions. Firstly, your company as I understand operates in
3 both the United States and Canada. So I'd just like to get your
4 sense of what differences you see between the two countries and
5 how driver safety is handled.

6 MR. EVANS: They're very similar. The main differences
7 are that there's not the equivalent of FMCSA. In Canada, there's
8 the Canadian Council of Motor Transport Administrators, CCMTA, who
9 have come up with the National Safety Code, which is the framework
10 of rules and regulations and compliance areas for Canada. And
11 it's the provinces, each one of the individual provinces that lead
12 out and adopt and provide the direction and the enforcement for
13 both federal and provincial regulations. Otherwise, they're very
14 similar, similar rules in both the hiring and screening and
15 training and supervision of drivers.

16 DR. PRICE: Thank you. Then I have a couple of more
17 specific questions. One is that the Safety Board has recommended
18 event driven cameras facing the front of the vehicle and the
19 driver, and our hope is that when a hard break occurs or a hard
20 steer occurs, that the cameras would record information about the
21 event for management review and possibly coaching. I'd like to
22 know what your view is on such a program?

23 MR. EVANS: Yeah, the drive cam kind of event recorders
24 were mentioned yesterday, and they were mentioned in kind of
25 glowing terms, and certainly there is, I think, lots of potential

1 for them to be used for training and prevention. What I have
2 found, what we have found, I think, is sometimes it's hard to
3 overcome the natural inclination to use them for disciplinary
4 action. And so an event happens and you look at the video and you
5 see that the driver made a poor choice, a poor decision, and the
6 inclination is sometimes to deal with that individual driver with
7 a disciplinary action or with training.

8 I think sometimes we have difficulty focusing on more
9 systemic organizational issues which these drive cam and event
10 recorder type things can provide. And so I think the challenge
11 for us is to -- you know, they're very helpful obviously with
12 litigation and liability and there's been many, many times, and
13 they've been well documented, how an event recorder can help
14 establish exactly who was at fault. I think the area that we're
15 still missing and still needs to be some work done is how we can
16 use them to begin to examine some of the root causes, some of the
17 organizational issues.

18 For example, if a driver is following too close or is
19 doing something that is a concern and puts himself at risk, I
20 think the bigger issue is why? Why is it? Is it a weakness in
21 training? Is it a weakness in supervision? Is there something in
22 our procedures and processes that allows that to happen? And so
23 again, I would think that we need to do some more work and using
24 them more effectively in developing preventative programs.

25 DR. PRICE: Thank you very much. And the other question

1 I have follows up on something you said in your talk about the
2 difference between the company on paper and the real company. And
3 I was wondering if you had any constructive suggestions on how
4 companies can do a better job of walking the talk?

5 MR. EVANS: Yeah, I appreciate the question and in an
6 attempt to try and make sure I had all my slides in within 5
7 minutes, I neglected to put that on in there. But this is some of
8 the work that our BISC committees are doing, and they fall into
9 six main categories.

10 First, do a better job of identifying expectations. I
11 think when you do a better job of job descriptions and clearly and
12 concisely letting drivers know what our expectations are of the
13 work they do, how they succeed and how they fail.

14 I think we also need to do a better job, as has been
15 mentioned several times, of selecting drivers. I think there's a
16 variety of tools out there that we could be using more effectively
17 to help find better matches with drivers that are perhaps better
18 suited to commercial vehicle operation.

19 Third, is better, more focused, more comprehensive
20 training, and that's been mentioned several times. And I think
21 that holds the key of one of the most significant areas that we
22 can do some work on. We have a variety of different types of
23 training: orientation, original skills training, remedial
24 training, recurrent training. Those are all things I think we can
25 do a lot better job on.

1 Monitoring and measuring. As I mentioned in my remarks,
2 I think sometimes many of our companies don't capture information
3 about losses very well. They use insurance readouts and what have
4 you and don't track things like near misses, and begin to use them
5 more effectively in figuring out what needs to change.

6 Give more effective feedback. I think our drivers feel
7 that they're out of the loop. They're not part of the
8 organization. They don't know what's going on. They don't know
9 about the incidents and the kind of things that are going on
10 within the organization.

11 And lastly, to provide some leadership. I think drivers
12 need to feel that they're known individually, they're not just
13 part of a large kind of a neutral driver forest, that their
14 individual needs and their concerns are known, that the boss is
15 out there kicking the tires and walking the talk and getting to
16 know them a little bit, and inviting them to contribute and have a
17 part in how the organization is built.

18 DR. PRICE: Thank you very much.

19 We're just about out of time. I'd like to ask if my
20 Tech Panel members have any questions they would like to ask at
21 this moment? Otherwise, I'll ask the final question, and we'll
22 pass it to the parties.

23 Okay. I think that we've had the opportunity to hear a
24 few mentions of what are some important future directions for
25 driver safety mentioned throughout. I've heard training. I've

1 heard technology. I guess though I'd just like to make sure that
2 we hear from each of our panelists. If you can just articulate,
3 with the couple of minutes we have left in our Tech Panel portion,
4 what you think are maybe the one or two or maybe three top things
5 that you think are important for us to be focusing on for the
6 future for driver safety? So if we can start with Dr. Pratt.
7 Thank you.

8 DR. PRATT: I would suggest that management systems as
9 discussed by my fellow panelists are an extremely critical issue.
10 I'm quite familiar with fleet safety as it's handled outside of
11 the trucking industry. It seems to me that sometimes because of
12 the regulatory framework within which the trucking industry
13 operates, it can be a blessing and it can be a curse. In many
14 other settings where there is not a regulatory framework, because
15 OSHA does not regulate motor vehicles in the workplace, companies
16 have to look at the existing traffic safety laws as a baseline and
17 then decide what they need to do to get to where they want to be
18 in terms of safety performance. And I think there may be a
19 tendency to look at the Federal Motor Carrier Safety Regulations
20 as the be all and the end all rather than a minimum, and with the
21 recognition that certain areas are regulated and certain areas are
22 not. And I think it makes sense for the truck and bus industry to
23 look at what may be done by some other companies in other
24 industries to achieve optimum safety performance within their
25 frameworks.

1 DR. PRICE: Thank you.

2 Dr. Knipling.

3 DR. KNIPLING: Yes, first let me just add a point I
4 should have said earlier on selection factors. Behavioral
5 history, of course, is very important, driving and non-driving.
6 And two particular risk indicators are past involvement in single
7 vehicle crashes and another is safety belt non-use.

8 I think there's going to be a lot of use of technology.
9 I mentioned onboard safety monitoring as well as collision
10 avoidance systems, and a lot of times these are one and the same,
11 you know, different aspects of the same system. I think that's
12 very important.

13 I've already mentioned driver selection. I think it can
14 become a lot more sophisticated and validated.

15 I think we should have real programs and policies to
16 recognize and foster good drivers. Todd's comment yesterday
17 about, you know, a 10-year-driver, giving them a free pass, well,
18 not a complete free pass, but I would look at ways where you could
19 have some significant benefits to those people as well as
20 significant relaxation of rules so you can focus more on the
21 drivers that need the more regulation and enforcement.

22 DR. PRICE: Thank you.

23 Mr. Spencer.

24 MR. SPENCER: Well, I sort of appreciate that
25 recommendation, Ron, and I agree with it. Trucking is sort of

1 amazing in the wrong way, in that basically the day you start, I
2 mean, it may never ever get any better than it is. The system
3 doesn't economically reward you for experience, the current system
4 anyway, in terms of dollars, and we don't in terms of how we treat
5 people, the regulations. I mean, obviously, the focus -- how many
6 times do you need to check good safe operators? At some point, it
7 gets down to a smarter allocation of resources and that seems to
8 be where there are too many challenges for government and agencies
9 at every level.

10 But anyway, I would -- again, you can't emphasize enough
11 the importance of proper and comprehensive training and then on-
12 the-job training. And, believe me, we've never seen it in
13 trucking and, you know, it all starts there. We ought to be doing
14 it for our kids, too.

15 You know, one of my pet peeves with too much of trucking
16 is -- you know, and we sort of mentioned it here, a safety
17 culture, which is really key if you're going to have optimum
18 safety. It's recognized, obviously, in the airline industry, and
19 I guess, it's critical. I note the differences between trucks and
20 airlines is that we don't treat the captain as the bad guy. We're
21 not looking for reasons to club him. He is a key ingredient in
22 the overall safety element and, of course, recognizing that other
23 parties have to play a role. That doesn't exist in trucking. For
24 the most part, the safety culture in many instances, it's up to
25 the driver and, you know, there's no support system. I mean,

1 basically what we talk about here is ways -- we've got to watch
2 this guy, we've got to crack the whip on him, and again there is
3 no support system, whether it's ability to get restorative sleep,
4 to get the burden off the driver in loading and unloading
5 situations. So, anyway, that's the direction.

6 DR. PRICE: Thank you.

7 Mr. Evans.

8 MR. EVANS: I would say it would fall under three main
9 categories. First, definitely, technology is making great strides
10 in improving driver safety. The stability control systems, the
11 adaptive cruise control, collision warning systems are all
12 technologies that are now coming into the motor coaches and other
13 forms of buses, which are making huge inroads into improving
14 driver safety. They help the driver sometimes make decisions
15 before the driver's fully aware of the situation that he or she is
16 in, and so I think that's a great area that we'll continue to see
17 strides in.

18 Another area would be, as mentioned, is the driver
19 selection. I think that's another area that we can do a better
20 job on is finding ways to match applicants to the driving
21 positions more effectively.

22 And then more comprehensive training has been mentioned
23 several times, more comprehensive, focused training where we do a
24 better job of letting our drivers know about not only the skills
25 driving, driver training, but also better orientation on the

1 company, what the expectations are and the kinds of environments
2 they're going to find themselves in, and then recurrent training.
3 I think that's one thing we don't do very well in industry. Most
4 of our companies, once you're trained and out the door, often
5 don't see you again in the training department. I think we need
6 to make sure that happens more regularly and that, as Mr. Jordan
7 mentioned in his testimony yesterday, that all staff go through
8 the same training course so that dispatchers and maintenance staff
9 and sales staff, all of the different areas of the company, all
10 know exactly what the driver's being asked to do.

11 DR. PRICE: Thank you very much.

12 Chairman Sumwalt.

13 CHAIRMAN SUMWALT: Thank you very much, Dr. Price.

14 We'll now go to the parties, and I believe yesterday
15 afternoon we started out with the union and driver associations.
16 Is that correct? Did you all go first at the end of the day?

17 So now today we'll start with the state government.

18 Good morning.

19 MR. KEPPLER: Good morning. I'm Steve Keppler from CVSA
20 representing the table. The first question is for the entire
21 panel. What do each of you believe is the top driver risk factor?

22 DR. PRATT: It's difficult to come up with one risk
23 factor. I go back to thinking in terms of the driver being
24 squeezed at both ends by industry, by the dispatcher, by the
25 receiver. I think it's in general the operating environment and

1 the lack of responsibility all the way down the supply chain for
2 safety.

3 We talk about driver mistakes as being the top factor in
4 crashes, but I think sometimes we fail to recognize that the risks
5 for making those mistakes aren't related, aren't necessarily
6 proximal to the event itself. They are related to the management
7 structure and the operating environment of the industry.

8 Having said that, I think that certainly driver
9 selection and individual driver factors cannot be ignored, and it
10 makes sense to try to fit the driver to the job and do extremely
11 focused assessments of the drivers which will streamline the
12 management process. It's easier to identify upfront individual
13 drivers with personality differences that may place them at
14 greater crash risk and then monitor those drivers while paying
15 less attention to others.

16 DR. KNIPLING: I think it's risk attitude which
17 correlates with personality traits, other attitudes and behavioral
18 history.

19 MR. SPENCER: You know, there's no one word. It's going
20 to be age, training, experience. Those are going to be the key
21 things, and obviously maturity matters, experience matters. You
22 need to learn how to handle certain situations. You know,
23 companies look at aggressive braking and aggressive turns because
24 that going to, in essence -- it certainly can be a total
25 reflection of what idiots you're out there sharing the road with

1 and what the traffic situations are, but it also shows somebody
2 that may be pushing harder than you would necessarily want them
3 to. Now, there may be reasons that they have to push hard, and
4 one of my challenges is understanding -- trying to tell people the
5 importance of a truck being able to make time on the safest roads
6 so they never find themselves in a situation where they have to
7 push on less safe roads, where other vehicles are. So those are
8 all kind of key things.

9 MR. EVANS: Well, I think there is one word. For me,
10 it's a four-letter word. It's rush.

11 I think transportation primarily talks about and values
12 in all of our people the ability to stay on schedule, and I think
13 that our operators throughout transportation in all modes are
14 imbued with that feeling of needing to be on schedule all the
15 time, and I think many of our drivers own that. They wear it very
16 proudly and they take great pride in being on schedule, and
17 they'll make decisions sometimes, poor decisions, because they
18 haven't heard the rest of the story.

19 The operations and management may not want the drivers
20 to put themselves at risk, but they feel that they have this need
21 to stay on schedule and then will often push. I think that's
22 where we get the following too close, the speeding, the cutting
23 corners and what have you. I think it does boil down to primarily
24 in our industry one of the biggest factors is rush.

25 MR. KEPPLER: Thank you.

1 Next question is for Dr. Pratt. You mentioned in your
2 comments that older drivers were involved in more crashes than
3 younger drivers. Have you looked at crash causation for both
4 groups? And, if so, did you find that older drivers crashed due
5 to medical or health issues? And did younger drivers crash due to
6 inexperience or other factors?

7 DR. PRATT: The data that I presented comes from the
8 Bureau of Labor Statistics. This data system, CFOI, does not
9 address crash risk factors. And again, I stated the limitation of
10 the data that I presented was that it's based on number of workers
11 employed. It's not necessarily based on driving exposure.

12 We can conceivably do analyses of FARS or other datasets
13 to try to get at those crash risk factors. I'm not aware that
14 that has been looked at in depth. We can surmise that with an
15 older driver population, with changes in the body type of the U.S.
16 population, which have been also seen in truck drivers, that we
17 can consider medical conditions, prescription medications and
18 factors such as obesity as possible risk factors for the oldest
19 drivers.

20 Also, I'm looking at fatality data here, and we know
21 from other studies, in general, in the case of an injury, that for
22 older individuals an injury is more likely to lead to a fatality
23 simply because of the possibility of complicating medical
24 conditions and greater age.

25 So I cannot answer your question definitively based on

1 the data that we examined.

2 MR. KEPPLER: Next question is again for Dr. Pratt.
3 It's a two-part question. And I think you mentioned in your
4 comments that there's inconsistencies with the data you're
5 collecting, with classifications, with DOT. So it's related to
6 that question.

7 DR. PRATT: Okay.

8 MR. KEPPLER: Are you doing any studies to investigate
9 driver-related deaths and injuries in industry sectors that have
10 exemptions from safety regulations?

11 DR. PRATT: Yes, we are. We are doing a number of
12 studies that I didn't highlight here because they're not related
13 to truck and bus safety. We are very much involved in looking at
14 ambulances. We're partnering with the Department of Homeland
15 Security, National Institute for Standards and Technology, and
16 also NHTSA to do studies of the ambulance patient compartment,
17 which is largely unregulated. We're looking at human factors and
18 how that area can be designed better to improve the
19 crashworthiness of the vehicle and also the survivability in the
20 event of a crash. We're looking at occupant restraints here.
21 We're also looking at the interior layout.

22 Another area we're working in is we are trying to
23 develop a proposal right now to look at the use of cameras such as
24 the drive cam type system in lighter fleet vehicles to determine
25 whether that can be a useful tool for driver management and also

1 reduce crashes.

2 In addition, one of the things that I think will be
3 quite useful, not just necessarily for the outside of trucking but
4 perhaps trucking as well, is that we are proposing and we have
5 funding to do a small survey of members of both the National
6 Safety Council and also members of an occupational safety and
7 health group under the umbrella of the Mercer Group, which is
8 largely Fortune 500 type companies that run large fleets
9 worldwide, to look at what are the elements of their safety policy
10 and then to try to correlate what's in their safety policies with
11 what their crash experience has been.

12 And we're really doing that based on some information
13 that we have from a small benchmarking study that is done annually
14 by a group we work with called the Network of Employers for
15 Traffic Safety. This is an organization that is involved in all
16 sorts of outreach through employers but also does an internal
17 benchmarking study of fleets internationally. I believe their
18 last dataset included 122 countries and 50-odd companies,
19 including very large companies that you'll recognize such as
20 Johnson & Johnson and Kraft Foods, UPS and so forth.

21 And, this particular group was able to look at their
22 data and identify the top practices for the companies that had the
23 best crash outcomes. And while these may not necessarily be
24 direct causation, you can see that policies such as having a
25 policy that drivers who violate company cell phone policies are

1 terminated is probably correlated with other things - for example,
2 that the policies, whatever they are, are enforced, and that
3 companies are willing to value safety above productivity. They're
4 concerned about worker safety.

5 So many of those kinds of markers are correlated with
6 good crash performance and I think there's something that the
7 truck and bus industry can learn from those kinds of policies as
8 well.

9 MR. KEPPLER: Thank you.

10 Our time's up, Mr. Chairman.

11 CHAIRMAN SUMWALT: Thank you, Mr. Keppler.

12 We'll go now to the industry table.

13 MR. SCHWEITZER: Thank you. I'm Rick Schweitzer for the
14 National Private Truck Council, and this first question is for
15 Dr. Knipling from Mr. Osiecki at ATA, but I basically came up with
16 the same question myself.

17 Given your knowledge of driver and crash risk factors,
18 would you comment on how current federal rules programs and other
19 countermeasures match up with or address these risks and risk
20 factors? And, I guess another way to state that is, are the
21 Federal Motor Carrier Safety Regulations focused in the
22 appropriate areas?

23 DR. KNIPLING: One of the things I did was look at the
24 Large Truck Crash Causation Study and look at the critical
25 reasons, the proximal causes, and I think that's the best part of

1 that study, the most revealing, and so I made a list of those and
2 all the percentages and just made my own assessment as to the
3 relevance of those two federal regulations in general. And, my
4 own assessment -- you know, you might disagree, but I had 5
5 percent of the causes were highly related to the regulations, 7
6 percent were moderately related, and 88 percent had a low
7 relevance to the regulations.

8 Now, I think you have to have regulations and you have
9 to have minimum performance both of vehicles and drivers and, you
10 know, there's no particular regulation that I would say, oh, you
11 can just do away with this regulation. But I think we should
12 recognize that the regulations, you know, maybe there's a
13 foundation of truck and bus safety, but it's only the foundation.
14 It's only, you know, the floor and then you rise above that by
15 addressing the actual risk factors and causes of crashes.

16 MR. SCHWEITZER: Thank you.

17 This question is to the entire panel. It's from
18 Mr. Littler, the American Bus Association.

19 What improvements or detriments to driver safety has
20 vehicle or highway-based technology played over the past decade?

21 MR. EVANS: I guess I'll jump in first. I think that
22 technology has made great strides in moving driver safety issues
23 forward. As I mentioned earlier on, there's a variety of safety
24 technologies now employed in motor vehicles and many of them are
25 now becoming available on motor coaches: the tire pressure

1 monitoring; adaptive speed controls; forward, side and rear
2 collision warning; stability control, in particular, is a huge one
3 for preventing single vehicle rollovers; ABS brakes, of course,
4 we're starting it.

5 One of the things that is now coming as well is -- I
6 think is referred to as IVMS, in-vehicle management systems, where
7 the actions of the driver are now being able to be monitored by
8 the office. In other words, a hard braking or driving without a
9 seatbelt, driving over the speed limit, are things that are now
10 being able to be monitored.

11 And so, I think modern technologies are going to be
12 playing a more and more significant and a larger role in helping
13 reduce the number of mistakes that are being made by drivers.

14 MR. SCHWEITZER: Okay. This next question is for
15 Dr. Knipling from Ken Presley of the United Motorcoach
16 Association.

17 Are you aware of any programs or tools that may evaluate
18 a driver's personality traits that may be more favorable to safe
19 operations?

20 DR. KNIPLING: You know, I mentioned this project we did
21 on or are finishing on driver selection, and we did look at a lot
22 of the tools that are out there, the, you know, attitude profiles.
23 I'd rather not mention any particular brand name because I think,
24 it looked to me that -- and we did review those and those will be
25 in the report. It's not an evaluation of them, but it is kind of

1 an assessment of what's out there.

2 I think there's a number of these attitude inventories,
3 personality and attitude inventories that have great promise and
4 some of them are being used successfully and in accordance with
5 federal regulations. For the use of selection devices, they have
6 to be validated. But I think there's work to be done before you
7 can put out a particular assessment tool that has broad validity
8 and carriers can adopt.

9 There's an awful lot of best practices in selection,
10 having a structured interview and, you know, looking at behavioral
11 history and things like that, that accomplish the same to a large
12 extent, but it's not a science yet. It's carrying through a lot
13 of good things but it's not refined yet, in my opinion.

14 MR. SCHWEITZER: Okay. Thank you.

15 This is somewhat related to that from Mr. Osiecki, of
16 ATA, also for you, Dr. Knipling.

17 Could you elaborate on the speeding and other aggressive
18 driving issues you highlighted in your remarks as far as greater
19 CMV driver safety issues than fatigue, and comment on programs and
20 countermeasures not currently in place today that could be
21 implemented to address them?

22 DR. KNIPLING: Well, yeah, if you look at the Large
23 Truck Crash Causation Study -- and it's not just that. You look
24 at other studies, the small bus study that was just published,
25 other sorts of data, a lot of it is, you know, speeding,

1 tailgating, illegal maneuvers. A lot of it is distraction, and
2 distraction I think you can divided broadly into, you know, sort
3 of intentional and unintentional, and -- driving is a multitask
4 activity, and so you're always going to have some distraction.
5 You know, you look in your side view mirror, you're distracted
6 from the forward field. So there's always going to be some of
7 that, but a lot of it is intentional distraction: cell phone use,
8 you know, text messaging, things like that.

9 So as I indicated, I think this comes back to a choice,
10 decision of the driver that account for the largest chunk of at-
11 fault crashes. Did I answer all of that?

12 MR. SCHWEITZER: Okay. Thank you.

13 Our final question is to the entire panel from
14 Mr. Littler at ABA.

15 Do you believe the current regulations governing
16 commercial motor vehicle operation should have more flexibility
17 built in to promote safety in a non-rigid world?

18 DR. PRATT: Yes, I would agree with that. I think
19 simply based on what we know from some of the research that
20 Dr. Knipling highlighted, that individual differences, like it or
21 not, do play a role in propensity to crash. We can't necessarily
22 assume that every individual who wants to be a truck driver could
23 operate at the same level of safety and, therefore, I think it
24 makes sense to build some flexibility into the regulatory regime,
25 and also into any kind of management system that would underpin

1 that regime.

2 DR. KNIPLING: Yes, absolutely I do, both for carriers
3 and drivers. I think it should be much more performance based,
4 and I know it's moving that direction. Drivers, in particular, if
5 they have a performance indicator of risk such as a single vehicle
6 crash or preventable crashes, in general, I mean those are the
7 drivers you should closely scrutinize and not give much
8 flexibility and autonomy to. In fact, you should audit them.

9 On the other hand, if you have drivers who have driven
10 successfully for a number of years, maybe they pass a higher
11 physical standard, or whatever, but I would give them all the
12 autonomy and flexibility you can until they have some performance
13 indicator that they don't deserve it.

14 MR. SPENCER: I concur. From my perspective, there is
15 no downside with flexibility. However, there certainly are
16 conflicts because there are individual interests and economic
17 interests that want to engage in this bizarre tradeoffs that
18 really have, you know, oftentimes nothing to do with improving
19 safety.

20 You know, I noticed -- and this is actually relevant to
21 a couple of the questions we have asked. Communications
22 capabilities has basically been a tremendous productivity improver
23 and actually safety improver for truck drivers in that, you know,
24 in the old days, if you were going to make a delivery, you'd stop
25 and ask for directions outside of a town or find directions

1 outside of town. You'd be looking at maps and doing these things
2 that take away from productivity and sometimes create distraction.
3 And believe me, I don't necessarily think distraction -- I think
4 distraction for a commercial driver is something that you deal
5 with on a regular basis.

6 Ron talks about looking in mirrors. Well, actually it's
7 even more complex than that because when you drive a truck, you're
8 looking in mirrors all the time, but you've especially got to look
9 at what's behind you on the right-hand side because you have idiot
10 drivers that will slide right up in your blind spot and they'll do
11 that in a heartbeat. They know no different. We don't educate
12 the public. We need to prohibit passing on the right, virtually
13 require all passing to be done on the left for all vehicles. That
14 needs to be a road law that's engrained in your brain, would
15 improve highway safety. But these are the things that are
16 distracting drivers.

17 Technology can help with some of that but basically it's
18 got to be in the brain. We talk about adding things to equipment.
19 Well, you know, I never owned a truck that had antilock brakes on
20 it. I never owned a truck that had front wheel brakes on it.
21 These things obviously can be a benefit.

22 But I remember the first studies that came out with
23 antilock brakes, a driver out of Ohio that ran a tanker in a 6-
24 month trial period. He never hit the antilock brakes, never one
25 time, and that has to do with his ability to drive the truck, I'm

1 going to say gently, softly and anticipate what's up ahead. So
2 you eliminate the need, and that's how good drivers do drive
3 equipment anyway.

4 MR. EVANS: I think that the CSA, the new CSA approach
5 has made significant improvements to compliance, and focusing more
6 on driver and carrier violation, collision data and inspections, I
7 think, has done -- has been a great initiative. And I suspect
8 that perhaps it might make sense for us to continue through those
9 hiccups and the challenges of implementing CSA fully before we
10 begin to embrace more flexible regulations. But I think the CSA
11 is a good foundation to move forward from.

12 MR. SCHWEITZER: Thank you, Mr. Chairman.

13 CHAIRMAN SUMWALT: You're quite welcome. Thank you very
14 much.

15 And to the federal government's table.

16 MR. HILLER: Thank you. I'm Brandon Hiller with the
17 Government Accountability Office.

18 I think this session has generated the most questions.
19 So I've done my best to put them in a good logical order. I'm
20 going to start with a couple of easier ones for Dr. Pratt from
21 NIOSH. And these are from me, at GAO, and we'll get into some of
22 the other questions from my peers here.

23 In your presentation, you mentioned problems with
24 confidentiality issues as a barrier to the data matching efforts.
25 Does NIOSH or anyone else you know of have any suggestions for

1 remedying this issue?

2 DR. PRATT: At the root of this issue is that the Bureau
3 of Labor Statistics relies on all 50 states and New York City, the
4 vital registration units, plus Departments of Labor, Departments
5 of Health - this varies state by state - to agree to submit the
6 data to the Bureau of Labor Statistics, and then those states also
7 have varying requirements that they impose on BLS for the use of
8 those data. Therefore, for us to have access to the data for any
9 specific purpose, to have access to the raw data files as opposed
10 to what is available on the web publicly, we have to execute
11 specific agreements with each of those entities.

12 Historically, the Bureau of Labor Statistics has been
13 reticent about having those types of agreements especially if they
14 are involving something like case-to-case matching which they
15 believe would create a potential to identify individual events.

16 We are reopening discussions because we know that the
17 Bureau of Labor Statistics recognizes the value of this type of a
18 case-by-case match to give us better data. This is less of an
19 issue for truck and bus safety. It's much more of an issue for
20 fleet safety in general.

21 If we look at what the criteria are with the FARS to
22 identify a work-related crash, it has to be identified on a death
23 certificate as such. The Bureau of Labor Statistics criteria
24 allows any number of supporting documents to verify work
25 relationship. Therefore, the number of occupational crashes that

1 are identified through the Bureau of Labor Statistics is far
2 higher than what's identified in FARS.

3 We think that FARS does quite well with large truck
4 crashes simply because those are typically identified as work-
5 related vehicles. Lighter vehicles fall through the cracks in
6 FARS, and if we were to match the two systems, we could at least
7 get a sense of what many of the crash risk factors are that come
8 from the FARS data and then link that up with industry and
9 occupation which is available in the Bureau of Labor Statistics
10 but not through the NHTSA FARS data system.

11 MR. HILLER: Thank you.

12 This question is for Dr. Knipling from FMCSA. FMCSA
13 data shows companies with high scores in the driver fatigue BASIC
14 have dramatically higher crash rates, higher crash rates than
15 companies with low fatigue scores. Given that the fatigue BASIC
16 is based largely on hours of service compliance, how do you
17 reconcile these data with your statement that hours of service
18 regulations are not a strong factor in safety?

19 DR. KNIPLING: Well, first of all, let me say that the
20 main determinants of an individual's alertness are their
21 individual susceptibility, the time of day -- you have very
22 dramatic circadian rhythm effects, the amount of sleep you get,
23 and the time awake. And that's not time working; it's time awake.
24 After 16 hours you get sleepy pretty regardless of what you're
25 doing.

1 Hours of service don't address individual differences.
2 They don't address time of day, nor should they. They indirectly
3 address hours of sleep, and the 10-hour rule is a good rule. It
4 affords the opportunity but doesn't guarantee sleep, and they only
5 indirectly address the time awake. So they're not on target as
6 far as addressing those factors. They're relevant, but not on
7 target.

8 I think -- and there was a lot of talk about this
9 yesterday, about the correlation between the so-called fatigue
10 BASIC and crashes. Well, first of all, it's not really fatigue.
11 It's hours of service violations, and we talked yesterday, a lot
12 of these may be administrative things.

13 I think you've got a couple of things going on here
14 underneath these data, and some of it could be addressed. You've
15 got a mixture of all those different types of companies in that
16 data, and it's certainly true that the long haul carriers are the
17 ones that are pushing the hours of service and that are more
18 likely to have the violations. The long haul companies have also
19 got the exposure. You know, the long haul company might have five
20 times the mileage per driver per vehicle as a different type of
21 company, and I think in those cases it's primarily the exposure
22 that's driving that crash up, not the hours of service violations.

23 The other thing is that I think that any kind of a
24 violator, if you violate rules of almost any kind, that's a
25 reflection of your behavior patterns, of your risk assessment, and

1 those rules can be relevant to outcomes or irrelevant.

2 And so let's say you had a rule that said every truck
3 driver, every driver had to wear a green shirt, okay. And so you
4 passed that rule and then you checked into it later and found 10
5 percent of them were not wearing the green shirt, and then looked
6 at their crash rates and violation rates and in other ways, and I
7 think you'd find that they are in general a higher risk group.
8 Wearing the green shirt doesn't make you safer, but it is an
9 indicator of your willingness to comply with rules and regulations
10 and that includes stopping at stop signs and obeying speed limits.

11 So I'm not saying it's completely irrelevant, but I'm
12 guessing that's more an artifact of the factors I mentioned.

13 MR. HILLER: Okay. This one's also for you,
14 Dr. Knipling from NHTSA, somewhat related.

15 How do the results in driving naturalistic studies
16 compare with reported results from driver distraction and driver
17 fatigue?

18 DR. KNIPLING: You know, the naturalistic driving
19 studies, and I was involved in 2 of these major studies at
20 Virginia Tech, 2 of the earlier ones, the 100 car study and then
21 the first big truck study, but not the more recent ones. But as
22 far as distraction goes, they indicate just a huge amount of
23 distraction involved in crashes and incidents. Let me come back
24 to that incident of crashes here in a bit. So they show the
25 tremendous role of distraction, and most of this is what I call

1 awake distraction. It's not drivers nodding off and becoming
2 distracted. They're doing some other, you know, active activity.

3 In regard to fatigue, in the main truck study I was
4 involved in, we had 661 at-fault incidents, and we did the
5 critical reasons just like the LTCCS. We had one that was asleep
6 at the wheel, and we had 10 others that we said were high fatigue.
7 That's all together less than two percent of the incidents.

8 Separately we looked at what's called observer rating of
9 drowsiness, and we found that even when you had higher levels of
10 that, when there is an incident, it was still due to something
11 else. It was due to, you know, following too closely or, you
12 know, some active distracting event. And so fatigue may be
13 present, but it's not the cause of the incident.

14 There was a big study at Virginia Tech, I was not
15 directly involved in, but it compared alertness levels in the
16 incidents versus the non-incidents, observer rating of drowsiness.
17 Drowsiness was higher in the non-incidents than in the incidents,
18 incidents occurring during active driving situations, interaction
19 with traffic. That's one of the reasons why naturalistic driving
20 studies shouldn't be accepted as ground truth because it's not
21 crashes. It's, you know, traffic interaction incidents and -- I
22 think I've answered your question.

23 MR. HILLER: Yeah.

24 DR. KNIPLING: But if not, let me know.

25 MR. HILLER: And I see we've already got a yellow light,

1 and I'm not even halfway through. So I'm going to ask this one to
2 again you, Dr. Knipling, from FHWA. If you are aware of the
3 vehicle-to-vehicle communication research efforts to improve
4 safety, could you briefly describe these and suggest which ones
5 might be particularly useful for truck and bus drivers?

6 DR. KNIPLING: You know, I've been involved in some of
7 that work but in that particularly technology, I'm not completely
8 up to date on that. I think it's not a near-term technology in
9 general. I think the near term ones are more, you know, forward
10 collision warnings that are vehicle based, but are not vehicle-to-
11 vehicle communications. I know that's coming. I wouldn't think
12 the relevance to trucks would be so much higher than any other
13 types of vehicles. Maybe rear end striking where the car hits the
14 truck, that might be the best application of that technology.

15 MR. HILLER: Okay. Thank you.

16 I see we're out of time, Mr. Sumwalt, but these might be
17 burning ones.

18 CHAIRMAN SUMWALT: They may be. Okay. Good. So much
19 to cover in so little time, but it's great that this panel is
20 stirring up a lot of interesting questions. Great.

21 And to the advocacy table.

22 MR. BURNS: I'm Jeff Burns with the Truck Safety
23 Coalition. The first question is from Matt Brumbelow with the
24 Insurance Institute. It's for Dr. Knipling.

25 You cited the Large Truck Crash Causation Study in

1 saying that 7 percent of crashes were caused by drivers falling
2 asleep at the wheel, and the majority of crashes were due to
3 decision or recognition failures. Couldn't fatigue affect a
4 driver's ability to make a decision or recognize a hazard without
5 the driver actually being asleep?

6 DR. KNIPLING: Yes, it can, and so, you know, fatigue
7 could be relevant to some of those. I think, you know, when you
8 make a decision error, by large, that these are choice decisions,
9 a decision to drive too fast, follow too close, make an illegal
10 maneuver. I don't think it's, you know, drowsiness that would
11 motivate you to do many of those things.

12 The recognition failures is a more complicated issue and
13 certainly fatigue can cause lower levels of attention and you can
14 tell that experimentally in sleep deprivation studies. I don't
15 think that's much of what happens in driving. I mentioned earlier
16 that when you're making those kind of mistakes, those traffic
17 interaction mistakes, that you're in an active situation where
18 you're usually not drowsy.

19 So we can't say for sure, but I think they're much more
20 related to decisions to be distracted and just the fact that
21 driving is a distracting activity because it's multitasking, and
22 just the nature of human beings. We're easily distractible. Just
23 ask yourself when you're driving, you know, how much of your
24 distraction is related to your being drowsy versus just being
25 interested in, you know, what's going on outside your vehicle or

1 is something going on inside your vehicle.

2 MR. BURNS: Directly related to -- the next question is
3 from me, the Truck Safety Coalition. But directly related to
4 distinguishing in the majority of cases that were caused by
5 failure to recognize or make a proper decision, the safety
6 advocacy groups attempted during the development of the study, the
7 LTCCS -- unsuccessfully, I might add -- to have a uniform protocol
8 for fatigue investigation included in the study protocol. How can
9 the study be used on any basis for a finding of a percentage of
10 fatigue when there was no uniform fatigue investigation protocol
11 included in the study that could have possibly distinguished those
12 majority of cases that were caused by failure to recognize or
13 failure to make a proper decision?

14 DR. KNIPLING: Well, I think the critical reason, I
15 think, is a very good variable. It's the assessment of, you know,
16 the proximal cause and it doesn't capture the risk factors, but I
17 think it has a lot of validity. And, you know, I don't believe
18 that in crash investigations that you should be looking for
19 fatigue or looking for speeding or looking for distraction or
20 looking for any particular thing. You should start off with a
21 full menu and, you know, define those choices and if you're going
22 to make a decision, critical reason doesn't say there's just one
23 factor that causes the crash, but it's still a good variable.

24 I think the biggest problem with the protocol would be
25 you have to have a control group of some sort, some sort of a non-

1 crash group, and you could do this. You could, you know, when you
2 have a crash, you could investigate the crash and then a week
3 later, you could go back and stop a truck and sort of ask some of
4 the same questions, like your driving schedule and things like
5 that. You know, had that been done with a control group, you
6 might see some of those fatigue effects.

7 MR. BURNS: So the entire LTCCS didn't have a control
8 group for any of their findings, right?

9 DR. KNIPLING: That's correct. And so from the
10 standpoint of assessment of risk factors, that's a real weakness
11 in the study. The associated factors like fatigue, for example,
12 the definition of those was, you know, present but not necessarily
13 contributing to the crash. So you have a gap there.

14 MR. BURNS: There wasn't any protocol to find out, if it
15 was present, how it might have caused it; was there?

16 DR. KNIPLING: Well, for all of the contributing factors
17 -- like you had one called emotion that was, you know, 35 percent
18 had emotion involved, but it was the mere presence of emotion,
19 whatever that was. It wasn't any assertion that it played a role
20 in the crash and that's the same with the 13 percent for fatigue.
21 So, you know, there's a lot of problems with this study.

22 Naturalistic driving, you do have a control group. You
23 take a random sample of driving and compare it to the incidents,
24 and even though the incidents are kind of flaky compared to
25 crashes, but there you do have a natural control group. Crash

1 investigation is difficult but could be done.

2 MR. BURNS: This is from the Insurance Institute for
3 Dr. Knipling.

4 What evidence do you have to support the statement that
5 enforcing hours of service rules does not change driver behavior?

6 DR. KNIPLING: I'm sorry?

7 MR. BURNS: What evidence do you have to support your
8 statement that enforcing hours of service rules does not change
9 driver behavior?

10 DR. KNIPLING: Well, it's the -- first of all, I'm not
11 saying there's no value in it whatsoever. You know, as I said
12 before, you have to have rules and drivers should comply with
13 those rules and noncompliance is associated with risk, other risky
14 behaviors. It doesn't change the person. Like EOBRs I think do
15 improve hours of service compliance. I think they're a good thing
16 for larger companies especially. It improves their safety
17 management.

18 The real question is whether compliance with hours of
19 service reduces fatigue, and I would say in and of itself it does.
20 You know, it's like noncompliance versus compliance. You know, if
21 you drive 12 hours versus 11, that in itself I don't think would
22 change alertness.

23 MR. BURNS: This is a question from Truck Safety
24 Coalition for Dr. Pratt.

25 Dr. Pratt, even in a year that has been referred to as

1 the safest year ever for trucking, between 400 and 500 truck
2 drivers were killed in on-the-job crashes. Are you aware of any
3 other industry in the United States that has more traumatic on-
4 the-job deaths to its workers than the trucking industry?

5 DR. PRATT: No, absolutely not. The trucking industry
6 has by far the highest number of deaths, not surprising because
7 the trucking industry would have the highest level of exposure to
8 motor vehicle traffic hazards.

9 MR. BURNS: This is a question from Mr. Jansy at
10 Advocates, for Mr. Evans.

11 How does fatigue affect the recognition and decision-
12 making function of drivers who make multiple decisions while
13 driving at 65 miles an hour?

14 MR. EVANS: Yeah, I think, as I mentioned, we kind of
15 have three groups in our industry. The school bus folks who
16 generally drive during the morning and afternoon school, we don't
17 really seem to see much fatigue concerns with them. The transit
18 group who sometimes are in split shifts doing an early morning
19 rush hour or late rush hour, those folks sometimes are exposed to
20 some fatigue challenges. But by far, I think our biggest concerns
21 are with the coach, charter and tour operators who are being asked
22 increasingly by groups to shuttle their groups around to various
23 destinations during the daytime and then use the coach as kind of
24 a rolling hotel in the evening. And so we have these inverted
25 sleep cycles, and as was mentioned by a number of folks yesterday,

1 it's very difficult for drivers to find facilities and the
2 motorcoach operators are no different. They can't leave the coach
3 running in cold or warm temperatures, and so they can't stay on
4 the bus. And many tourist destinations, including casinos and
5 other tourist spots, are just as inadequate as rest stops and
6 truck stops in order to find a place for a driver to rest as
7 they're not allowed or they can't rest in the coach. And so we've
8 got some big concerns there, and I would say that that's probably
9 where our biggest concerns are. And obviously as a driver is more
10 fatigued, they're slower and less able to make good choices
11 quickly.

12 MR. BURNS: Thank you.

13 The next question is from Mr. Jansy for Dr. Knipling.

14 How do you square your down-playing of driver fatigue as
15 a crash causation factor with the high rates of driver self-
16 reports of being tired or falling asleep while driving?

17 DR. KNIPLING: Well, you know, I don't have a good
18 explanation for that. You know, you look at different types of
19 studies and you get dramatically different types of findings. I
20 think if you were to ask them other things about, you know, how
21 often have you been upset or angry or, you know, rushed or, you
22 know, how often you didn't check your brakes. There's all kinds
23 of other things.

24 MR. BURNS: Or whether you wear a green shirt.

25 DR. KNIPLING: Well, something --

1 MR. BURNS: Thank you. We're out of time.

2 DR. KNIPLING: Well, let me just finish my answer,
3 please. I think that the bottom line is the crashes and crash
4 investigations, and my assessments are based on that data.

5 MR. BURNS: Thank you.

6 CHAIRMAN SUMWALT: Great. Thank you.

7 And finally the union and driver associations table.

8 MR. STUDIVANT: Good morning. The first question is for
9 Dr. Pratt. It's from Women in Trucking.

10 Does your data separate health risks by gender? If so,
11 can someone obtain that data?

12 DR. PRATT: Are you referring to the study that we did
13 with the owner operators? Yes, I believe it does. I cannot tell
14 you the details of what we found given that the numbers were quite
15 small, and certainly we can provide that information.

16 MR. STUDIVANT: Okay. This question is for Dr. Knipling
17 also from Women in Trucking.

18 Do you have any gender-based data in regard to safety
19 and how important is testosterone in safety risk?

20 DR. KNIPLING: Well, that's a great question and, you
21 know, I don't think there's much data women versus men, but the
22 biology would say that women are going to be a lot safer than men.

23 Leonard Evans in his book, he's got -- he shows three
24 age-related curves and one of them is level of blood testosterone,
25 and the next one is probability of a criminal arrest, and the

1 third one is probability of involvement in a single vehicle crash.
2 And those three curves are just right on top of each other
3 throughout the entire span of life. So, you know, my suspicion
4 is, my belief is that if you had a lot more women in trucking that
5 it would be safer.

6 MR. STUDIVANT: Dr. Pratt, some carriers have found
7 their physical prequalification tests limit or preclude their
8 hiring of women. Do you have any recommendations in this area,
9 i.e., lifting requirements?

10 DR. PRATT: I do not. I can tell you that when we look
11 at non-fatal injuries to truck drivers, that highway crashes are
12 not the leading cause of non-fatal injuries. It's a spectrum of
13 overexertion injuries, contact with objects, and falls on the same
14 level, which we can look at those as involving loading and
15 unloading. NIOSH does publish a lifting equation that I think is
16 quite widely used in industry, and I don't know anything about
17 that in detail, but I would suspect that it does provide different
18 guidelines by gender, and I would assume that that could serve as
19 a starting off point for guidelines for lifting and loading and
20 unloading in trucking.

21 MR. STUDIVANT: Mr. Evans, from Women in Trucking.
22 You state how important driver selection is for safety.
23 What advice would you give carriers who need to fill empty seats
24 as quickly as possible?

25 MR. EVANS: Good question. Certainly it's a little

1 easier over the last year or two as the turnover rate hasn't been
2 as high as it has in the past. As mentioned a couple of times
3 earlier, I think there are beginning to be some tools and some
4 more ability to do a better job of matching drivers with certain
5 kinds of predispositions, I guess, to commercial vehicle driving,
6 and I think there's a lot of work that still has to be done on
7 that.

8 I think it makes sense intuitively that we look for
9 people who deal with stress and with multi-priorities and making
10 decisions and those kinds of things. I'm not so hot on
11 personality screening because regardless of our attitudes and our
12 personality, I think we expect commercial vehicle drivers to be
13 trained and to be professional to overcome those, but certainly I
14 think there are some basic traits that we all bring to the table
15 that make us perhaps better suited for commercial vehicle driving.

16 And how we do that, you know, in times when it's
17 difficult to find drivers -- I think one of the things I've noted
18 in the past is when times are busy, we tend sometimes to make
19 decisions based on whether we like someone or not and whether we
20 have a connection with them, and that's certainly important, but I
21 think a more regimented, more documented, more standardized
22 approach to recruiting and selection, I think would go a long way
23 to improving that.

24 MR. STUDIVANT: Okay. The next question is directed to
25 anyone on the panel. Feel free to answer. It's from the

1 Teamsters.

2 There have been several suggestions that electronic
3 monitoring of drivers may help to reduce crash risk. Studies in
4 some industries show that electronically monitored workers
5 experienced an increase in job stress and do you think this could
6 become a problem for drivers who are electronically monitored?

7 DR. PRATT: I'll go ahead and start. I think it depends
8 on how the monitoring data are used. I think if it's a punitive
9 and a disciplinary environment in which this is done as opposed to
10 an opportunity to provide corrective action and make that person a
11 safer driver and a better employee, I think it's fine. I think it
12 all depends on how it's framed within the organization and that
13 goes to the safety culture of the organization. It can go both
14 ways. It can be a disaster and unproductive in a situation where
15 it's simply used as a stick, but if it's used as a cooperative
16 effort between management and workers to improve performance, I
17 think it can be a positive.

18 DR. KNIPLING: Yes, I agree with all of that. I think
19 that's the key. Also I would make the case to drivers that, you
20 know, you're driving an 80,000-pound vehicle down the road and
21 that, you know, 98 percent of the people in car/truck crashes that
22 are killed are the car drivers, and also for your own safety, that
23 you as a commercial driver have a very high death rate.

24 So I would do all those positive things: behavioral-
25 based safety, recognition, make it positive, but also make the

1 case that this is important and you have a responsibility to drive
2 in compliance with safety driving.

3 MR. SPENCER: The technology is already being used in
4 trucking in terms of ability to -- or dispatch hollering at,
5 calling drivers, say, why are you stopped? I mean, it's used for
6 that right now. And obviously, you know, when carriers talk about
7 how great they think EOBRs are and how everybody ought to be
8 blessed with one, they talk about it's a productivity enhancer.
9 Now, obviously, the only way it enhances productivity is we could
10 push the drivers to run more hours and certainly more miles. So
11 it already is.

12 I think communication devices are a marvelous thing for
13 the driver of the vehicle, but they need to be something that the
14 driver has the ability to control, meaning a driver can know when
15 it's safe to do certain things. I mean, these are professionals
16 and if they can't make those kinds of decisions, we don't need
17 them behind the wheel whatsoever. I mean, they should be allowed
18 to, they should be encouraged to.

19 We need to have ways where drivers can keep from being
20 interrupted. Drivers tell us routinely that certain carriers that
21 they work for use the devices to wake them up, and that's
22 nuttiness.

23 MR. EVANS: Yeah, I would agree with Mr. Spencer's
24 comments. We definitely need to treat drivers better, and so we
25 need to be careful that these devices are not used as a big stick.

1 I think, generally speaking, the management and supervision of
2 people over the years has grown significantly. We have come from
3 an era where the big stick was the way that we managed people.
4 We've made great strides in that.

5 I don't think we should shy away from applying some of
6 those things we've learned through our drivers. I think we need
7 to have them involved, and they need to feel that what they do is
8 important. And I think sometimes we let them off the hook and
9 when something goes wrong, we're all there to point fingers, but I
10 think we need to ensure that they're recognized, appreciated,
11 involved in the process, they have an opportunity to contribute
12 and more than anything else, feel like they belong.

13 MR. STUDIVANT: Okay. Thank you.

14 Dr. Knipling, you indicated the personality variables
15 contribute to crash risks. Are there ways to have drivers to
16 modify their personality traits?

17 DR. KNIPLING: Well, I think a lot of personality is
18 dispositional. Just a news report yesterday of a gene found that
19 was related to risk taking. I don't think it's all genetic, but I
20 think a lot of it is either genetic from early development.

21 I think that things like behavior-based safety, if
22 properly applied in a positive way, you know, can change
23 attitudes. And there are, in behavior-based safety, there's
24 literature where using that process to change worker behaviors,
25 they also develop a better attitude towards those positive

1 behaviors.

2 So I think it is changeable, but I also think it's
3 persistent and I think when you're interviewing a driver, I think
4 you should take their attitudes and personality traits as a given
5 and make selection, a choice based on that. But the drivers you
6 have there, if you have a problem driver, I think you have to kind
7 of make a choice as to whether that's remediable or not, and in
8 some cases, proper management can change attitudes and behavior.

9 MR. STUDIVANT: Thank you. Our time is up.

10 CHAIRMAN SUMWALT: Thanks. You all have done a great
11 job of managing your time, and I appreciate that.

12 Speaking of time, again I said this a couple of times
13 yesterday, my job is to make sure we're getting good information
14 but also keeping it on schedule. I know that there's some burning
15 questions out there, and what I'm going to do, when we come back
16 to the Technical Panel is I'm not going to ask any questions, and
17 I've asked members of the Technical Panel just to limit it to one,
18 just so that we can keep it rolling. If there are burning
19 questions out there, I will certainly consider that. It's the
20 chairman's prerogative even though it will put us a little bit
21 behind.

22 There's great sessions coming ahead. We've got driver
23 health, crash avoidance and crash mitigation, and so it's all a
24 balancing act. We can cut into the break just a little bit and we
25 can cut into lunch, and we can even go a minute or two late this

1 afternoon. So with that as a backdrop, how many parties have
2 burning questions? I'd like to see a raise of hands.

3 So this panel -- all right. So raise them high. We've
4 got two and I think the federal government, you're -- okay. Good.
5 So what we're going to do is we're going to take one burning
6 question from each party and we will start, continue the rotation,
7 one burning question, and what I'm going to suggest is unless you
8 really need to hear from each of the panelists, I'm going to
9 suggest that you not go and say, Dr. Pratt, Dr. Knipling,
10 Mr. Spencer. Ask the question to a specific person, get the
11 answer. If you really need another perspective, that's fine, but
12 -- all right. So we'll start with a short question from the
13 industry table.

14 MR. SCHWEITZER: Thank you. This is for Dr. Knipling.

15 Some suggested 30 to 40 percent of all truck crashes are
16 fatigue related. Based on your knowledge of crash causation and
17 naturalistic driving studies, is this figure accurate?

18 DR. KNIPLING: You know, I'm partly responsible for that
19 number being out there because in 1994 when I was at NHTSA, we did
20 a research note on the fatigue crash problem size, and we
21 published data from FARS and from GES, from cars and trucks. The
22 FARS numbers were about four percent. The GES numbers were about
23 one percent for both cars and trucks. I don't remember exactly.
24 You know, we addressed that. We addressed the fact that police
25 accident reports undercount, and that undercounting is probably on

1 the order of maybe threefold, so that -- you know, you could even
2 multiply some of those numbers higher.

3 And then we had a little literature review where we
4 looked at past studies and one of them was a AAA study, I think
5 from 1987, that, you know -- a couple of short paragraphs that I
6 wrote, you know, something about this study suggested a 30 to 40
7 percent. And over the years, what's cited from this little
8 research note we did, where that was just small part of a
9 literature review, and we had lots of other data suggesting a much
10 smaller problem, but that was what, you know, what took hold and
11 what was cited.

12 I think a lot of people in this field are kind of like
13 one issue politicians. If your interest and profession and your
14 orientation is fatigue, then you're going to be interested in
15 finding the biggest numbers that most validate what you're doing
16 and your concerns. So I think that's part of it.

17 You know, I recognize that there are different numbers
18 out there and that --

19 CHAIRMAN SUMWALT: Okay.

20 DR. KNIPLING: -- you could make the case, but --

21 CHAIRMAN SUMWALT: Dr. Knipling.

22 DR. KNIPLING: -- that particular one has no basis.

23 CHAIRMAN SUMWALT: Dr. Knipling, yeah, the question was,
24 was it accurate? That was the question. So did you answer that?

25 DR. KNIPLING: I hope so. It's not accurate.

1 CHAIRMAN SUMWALT: It's not accurate. That's the answer
2 that you're giving? I heard a lot there, and I wanted to make
3 sure that the question was answered. Thank you.

4 Let's go to the federal table, one question.

5 MR. HILLER: Okay. This one is directed mostly towards
6 Dr. Knipling, but I think anyone on the panel can answer. It's
7 from NHTSA, but also I think GAO.

8 We've had a lot of talk here about driver distraction
9 versus fatigue, but I don't think we've heard enough about what
10 specific countermeasures should be pursued to address driver
11 distraction.

12 DR. KNIPLING: You know, I haven't talked much about
13 education, but I think education is a big part of this, and like
14 there's a driver tips website on FMCSA's site that gives a lot of
15 examples of driver distraction and how insidious it is. I did
16 some work with J.B. Hunt. They have a nice little video where
17 they show, you know, what can happen in the time that you, you
18 know, adjust a radio, and so I think it's education and then
19 accountability for drivers for their performance.

20 CHAIRMAN SUMWALT: Thank you.

21 Okay. We're now going to go to the advocacy table.

22 MR. BURNS: Dr. Knipling, your answer to the fatigue
23 percentage raised another question. Is any of the data on fatigue
24 that you've ever looked at accurate in precisely determining the
25 percentage of fatigue that contributes to crashes?

1 DR. KNIPLING: Well, I gave you what I thought was the
2 best assessment, the LTCCS. That was a representative sample.
3 Although there's some sampling issues, I like the methodology, and
4 so I think that's the best number. As to whether you can have an
5 absolutely definitive number, no, I don't think so, but that's the
6 same with anger and emotion and even brakes. You know, actually
7 if you think about it, the situation with brakes and -- you know,
8 if your brakes are out of adjustment, you're underperforming, you
9 can have a complete failure of your brakes. It's actually a very
10 similar thing, and it's pretty hard to say exactly what the role
11 of brakes is in crashes.

12 MR. BURNS: So you'd agree that you could be wrong and
13 the actual percentage of crashes caused by fatigue could be much
14 higher?

15 DR. KNIPLING: Well, yeah, I could be wrong in all of my
16 beliefs in life, but I -- you know, this is my best shot at it.

17 MR. SPENCER: Jeff, the most recent data from FMCSA has
18 1.4 percent of actual crashes being fatigue related. That is a
19 hard number. You may not like it, but it's not an estimate. It's
20 a hard number.

21 MR. BURNS: You need to read it again.

22 CHAIRMAN SUMWALT: Okay. We're going to go to the union
23 and driver associations.

24 MR. STUDIVANT: Yes, for Mr. Evans. In your
25 presentation, you stated that companies don't really respond fully

1 to training and safety until there's an accident. Is this cost
2 related or schedule related?

3 MR. EVANS: I don't think it's done with any real
4 intent. It certainly isn't money. I don't find that companies
5 generally are not putting resources into safety because they're
6 totally worried about the bottom line as much. I think what it
7 is, is that their natural inclination is to think that a minor
8 incident, a so-called minor collision or a near miss, doesn't have
9 any assurance or any bottom line cost to the company, doesn't
10 perhaps impact the time on the schedules and what have you, and so
11 therefore is seen as a relatively minor incident that kind of
12 lives along by itself. And I think where the problem is, there
13 hasn't been a connection made between the minor incidents and the
14 near misses as a precursor, as a red flag if you will, for
15 potentially something more significant happening later on, and so
16 I think they miss a lot of opportunities to capture information
17 about what's going on, make that better connection with the real
18 world to prevent something more major happening later.

19 CHAIRMAN SUMWALT: Okay. Thank you.

20 And finally with the state government.

21 MR. KEPPLER: Thank you. This is question for
22 Mr. Evans.

23 Do you believe the sanctioning provisions in the
24 regulations for drivers are appropriate and effective when drivers
25 are discovered in violation? Another way to phrase this question

1 is do you believe drivers are more concerned about company policy
2 or licensing sanctions?

3 MR. EVANS: I think it's a combination. I don't think
4 it would be right to isolate those. Certainly compliance and the
5 consequences of noncompliance is an important part of how humans
6 work. We need to have that stick occasionally held over us to say
7 if you do things a certain way, this is the kind of thing that's
8 going to happen to you.

9 I think what I was saying earlier on is that we need to
10 go beyond that, and also look for management and processes and
11 procedures that encourage, so we have both the stick and the
12 carrot. So, yes, I think that they definitely have a place and do
13 have significant impact to driver performance.

14 CHAIRMAN SUMWALT: Thank you very much.

15 Okay. We're going to bring it to the Tech Panel.

16 Ms. Price.

17 MS. PRICE: Chairman Sumwalt, we understand that we are
18 running late for time. So I think we're going to forego
19 additional questions. However, I did want to just make a couple
20 of requests.

21 Mr. Evans, you had cited in your presentation a study
22 that determined that a commercial vehicle operator averages 160
23 decisions per mile. We would just like to that you submit that to
24 our docket.

25 And we would also like to ask any panelists who may be

1 aware of evidence or research that looks at the relationship
2 between training and accident reduction, to please submit those
3 papers to the document because we've heard many people advocating
4 for additional training, but very little discussion about evidence
5 linking to that. So I would just like to make a formal request to
6 have those papers submitted to our docket.

7 CHAIRMAN SUMWALT: That will be fine. Okay. So no
8 questions from the Tech Panel. I want to thank you all for your
9 cooperation. You know, I'd rather the parties be able to air and
10 ask their questions than our own staff.

11 We will take a break. We will be back at 10:20. We're
12 adjourned.

13 (Off the record.)

14 (On the record.)

15 CHAIRMAN SUMWALT: Okay. We're back in session.

16 Dr. Marshall, will you please introduce the next panel?

17 DR. MARSHALL: The next session will be on driver health
18 and its purpose is to examine the state of driver health and
19 wellness programs and the progress towards comprehensive medical
20 oversight for interstate commercial drivers.

21 On our Technical Panel is Ms. Michele Beckjord, Dr. Jana
22 Price and Dr. Robert Molloy. Ms. Beckjord.

23 MS. BECKJORD: Good morning. I would like to introduce
24 our subject matter panelists for this session, and it is
25 Dr. Maggie Gunnels who is the director of the Office of Medical

1 Programs with the Federal Motor Carrier Safety Administration.
2 Then we have Dr. Natalie Hartenbaum. She is the president and
3 chief medical officer with OccuMedix, Incorporated. And finally
4 we have Mr. Robert Petrancosta who is the vice president of safety
5 for Con-Way Freight. Welcome.

6 Dr. Gunnels, would you like to start with your
7 presentation?

8 DR. GUNNELS: Certainly. Thank you, and thank you for
9 your commitment to bus and truck safety.

10 Today I'll briefly discuss milestones reached by FMCSA
11 and the Department of Transportation on the commercial driver
12 oversight program. I will provide a brief update about
13 significant activities and progress with attention to the context
14 and challenges faced currently in program implementation.

15 And as you know, FMCSA provides minimum requirements for
16 medical fitness for duty for operators and interstate commerce.
17 And states as well as employers, such as bus companies, must meet
18 these requirements, however, they can have more stringent
19 requirements and programs as statute allows.

20 We've had a number of milestones particularly over the
21 last reauthorization period beginning with the establishment of
22 our Medical Review Board in 2005.

23 In 2007, we published the first national study of the
24 medical examiner community, which was very important to support
25 the rulemaking activities that are currently in progress, and

1 that's available online should you need it, and I'll talk about a
2 few highlights, I'm sure, as we go along.

3 In 2008, we published the final rule to merge the
4 medical certificate and the commercial driver's licensing
5 information system, as well as the proposed National Registry
6 rule.

7 In 2009, we hired a chief medical officer. That's
8 Dr. Bernice Lester, formerly of the U.S. Air Marshal Service, and
9 she's doing a great job in that role.

10 As well, in 2010, we awarded the FMCSA Volpe interagency
11 agreement to deploy the National Registry IT system, and that was
12 in September 2010 and published the online Medical Examiner
13 Handbook.

14 The FMCSA medical program, located within the Office of
15 Policy at FMCSA, has 10 full-time employees with approximately a
16 \$5 million annual budget. More than 40 percent of these resources
17 are dedicated each year to the administration of the
18 Congressionally mandated medical examination and certificate
19 programs.

20 In comparison, the FAA program is much larger in terms
21 of resources than the small program staff at FMCSA. The FAA
22 aerospace medicine program budget exceeds \$55 million in the
23 proposed FY 2012 budget, and as to scope, FMCSA provides oversight
24 for a driver population about 10 times the size of FAA's
25 approximately 747,000 pilots that are regulated with a small

1 fraction of the budget in personnel resources.

2 So this underscores the necessity for FMCSA to partner
3 with organizations as new programs, such as the National Registry
4 Initiative, are developed.

5 We found our program around regulations and guidance,
6 reliance on medical examiners and employers, use of existing
7 practices, best practices in clinical guidelines, focused
8 education, outreach activity as well as strategic partnerships,
9 which I'll speak more to in a moment.

10 To deploy a national program to millions of commercial
11 drivers and an estimated 40,000 medical examiners across the
12 United States, FMCSA must rely on many partners in safety, from
13 drivers to physician assistants to key organizations and groups.

14 As medical examiners are trained and tested, FMCSA will
15 expand the roster of practitioners who are qualified to perform
16 the examinations. Right now we have a listserv of about 5,000
17 practitioners who we currently communicate with.

18 New technologies such as web-based education modules
19 will play a major role in deploying medical examiner education
20 materials, program updates and more, and again, reliance on
21 partnerships is really critical to our success.

22 And as I mentioned, in September 2010, we awarded the
23 interagency agreement to the Volpe Center to deploy the National
24 Registry IT system, and this is funded currently at just over \$4
25 million of the \$9 million agreement to perform this important

1 work.

2 In 2011, we have several other milestones, including the
3 IT system release for the National Registry and the anticipated
4 publication of the final rule for the National Registry Program
5 later this year. In conjunction with this, we'll have deployment
6 of medical examiner outreach and education activities.

7 In 2012, things will be in progress such as training and
8 testing organizations, deploying medical examiner programs, the
9 population of our National Registry roster, as well as proposed
10 changes to the medical rules.

11 While we can't speak about the details, given the
12 parameters of the rulemaking process, rest assured that a FMCSA
13 multidisciplinary team is working on the integration of a proposed
14 National Registry rule with the medical CDL rule.

15 And in closing, we'd like to emphasize the value and the
16 importance of our strategic partnerships with many of you who are
17 watching us as well as many of you in the room. It really is
18 critical to the success of our program. And we are working to
19 leverage the resources dedicated to the commercial driver medical
20 oversight program to produce safer drivers, and we appreciate your
21 partnership and your support, and we also appreciate the support
22 of the medical community and the drivers themselves to raise the
23 bar for driver safety. Thank you.

24 MS. BECKJORD: Thank you, Dr. Gunnels.

25 Dr. Natalie Hartenbaum.

1 DR. HARTENBAUM: Thank you for inviting me here. It's
2 interesting being back about 11, 12 years later. I'm going to
3 speak on behalf of the medical examiner community. What were the
4 issues and challenges we faced back in 1999? What have we as
5 examiners seen happening since then and then what are our ongoing
6 concerns and ongoing challenges?

7 Back in 1999, probably the greatest concern that we had
8 was the wide disparity and knowledge in the medical examiner
9 community. Some medical examiners knew about the rules, the
10 regulations, the guidance, the roles and responsibilities of
11 commercial drivers as well as where to find guidance material.
12 The majority of them did not because at that point in time, the
13 guidance material was much more difficult to find.

14 Medical examiners then and now are not just limited to
15 physicians. They are any licensed health care professional,
16 licensed by their state to perform medical examinations.

17 Because the guidance was inconsistently available, and
18 examiners were inconsistently aware of the guidance, we often
19 found that there was doctor or examiner shopping going on, where a
20 driver was unhappy or a carrier was unhappy with the examination
21 outcome would seek a different examiner, one who would be more
22 friendlier, more willing to certify or overlook certain types of
23 issues.

24 We also found that as there was no centralized database,
25 some drivers would go to one examiner, admit to having a seizure

1 disorder or some other medical condition, be not certified and
2 then would go to a different examiner down the street and would
3 not just check off on that box, and no one knew and there was no
4 way of reporting something like that.

5 In addition, carriers were all over, whether they had
6 occupational health programs or not, and whether they mandated
7 which clinic or which examiner their drivers would have to go to,
8 sometime choosing drivers or examiners who followed guidance
9 material closely, other times choosing examiners who said, well,
10 good enough is good enough.

11 What's changed since then is there's been a lot of
12 changes. First of all, the medical examination form which used to
13 be a one page, two-sided form, did not contain a lot of additional
14 information, is now eight pages long. Some of the guidance has
15 been updated and included aside from just the regulations, we also
16 have the advisory criteria. Within the advisory criteria is
17 references to the Conference Reports. So for an examiner who at
18 least reads the full form, they know that there is additional
19 guidance and they know where additional guidance can be found.

20 In addition, the FMCSA medical program website is
21 fantastic, but again the examiners need to know to go to look at
22 it. It includes conference reports. It includes links to the
23 National Registry as well as the Medical Review Board and now it
24 includes the Medical Examiner Handbook.

25 Through that website, you can access the Medical Review

1 Board's webpage and get the Medical Review Board's recommendations
2 as well as the medical expert panel's reports and their
3 recommendations as well.

4 I have plus/minus whether these are good or bad issues.
5 They're great issues if you want to follow what the current best
6 medical knowledge is or current best practice is. The challenges
7 are that most examiners are looking at this and saying, well, I
8 can't follow it because the carriers won't let me, the drivers
9 aren't allowing it because it's not official FMCSA guidance. And
10 what's in the Medical Examiner Handbook, unfortunately, is based
11 on the old conference reports, some of which date from the late
12 1980s. So now the examiners are left with the challenge of do we
13 follow best current practices as recommended by experts, whether
14 the expert panel or the Medical Review Board, or are we forced to
15 follow outdated guidance because that's all that's official and
16 out there.

17 As Dr. Gunnels mentioned, there's a chief medical
18 officer, Dr. Lester, which I think has been a great plus. She's
19 reached out to several of the medical organizations, the examiner
20 community, and I think that interface will only continue to get
21 better.

22 The CDL medical certificate merger also could be a great
23 benefit to prevent doctor shopping. However, as it is currently
24 set up, it's the drivers that report to their state driver
25 licensing agency whether or not they're medically qualified. So

1 we're not preventing anything from the driver who has a medically
2 unqualified status from not report that status to their state, but
3 rather going to a different examiner and only reporting the
4 qualified examination.

5 The National Registry of Certified Medical Examiners was
6 proposed in 2008, and we're anxiously awaiting that being
7 formalized and the final rule for that. But unfortunately, that
8 still is in the proposed rule and has been for over 2 years now.
9 One of the pluses is the private sector is already beginning to
10 train examiners. They're disseminating information. They are
11 making certain that examiners know the guidance is out there,
12 updated information, that recent medical expert groups have met
13 and that this is available and where to find it.

14 Unfortunately, when we're reaching out to those
15 examiners that are taking this training program, that are reading
16 the material, we're really preaching to the choir. These are the
17 examiners that already know what the issues are and already know
18 that there's a right way and a wrong way to do these medical
19 evaluations.

20 What do we really need? We really need current
21 guidance, guidance that's updated on a regular basis, that's
22 consistent with current best medical practices, that we have the
23 explanation that just because it's not official, it doesn't mean
24 it can't be followed. We urgently need guidance on three main
25 issues: sleep apnea, chronic kidney disease and medication, as

1 well as on multiple medical conditions and musculoskeletal.

2 Examiners are really hand tired trying to do the right thing.

3 Examiner training, just to make sure that the examiners
4 are all at least reasonably on the same page, and then tracking
5 driver medical status to make certain that drivers that are not
6 qualified cannot simply go to a different examiner.

7 And then finally a challenge that will continue to be a
8 challenge is the inconsistent intrastate, interstate medical
9 criteria, even as far as who requires the medical examination. A
10 medical exam is required for interstate drivers at 10,001 pounds,
11 and there's other criteria as well, but for the CDL, it's 26,001
12 pounds. So you have a lot of drivers that are required to have
13 medical exams, not CDLs, and therefore nothing is reported about
14 their medical status.

15 MS. BECKJORD: Mr. Petrancosta.

16 MR. PETRANCOSTA: Good morning. Again, I'm Bob
17 Petrancosta, Vice President of Safety with Con-Way Freight. We
18 are a less-than-truckload carrier that operates in over 300
19 service centers in North America. We employ a total of 21,000
20 employees, which 17,000 are commercial motor vehicle drivers.

21 As a company that values safety as the number one core
22 value, it doesn't come as a surprise that we invest heavily in the
23 preventative health of the trucks that we put on the highway, on
24 the road. As a company that also recognizes that its number one
25 asset is its people, it's intuitive that we make the same type of

1 an investment in the preventative health of the people that will
2 drive those trucks on the highway.

3 So why wellness? When you consider that 75 percent of
4 every dollar spent on health care is spent on the treatment of
5 preventable illnesses, and that preventable illness makes up
6 approximately 80 percent of the burden of illness and 90 percent
7 of health care costs, and preventable illnesses account for eight
8 of the nine leading categories of death, it makes sense that a
9 company should focus on healthy lifestyle changes and choices for
10 its employees.

11 This data is a stark illustration. It comes from a
12 recent CDC study that shows that the state of health is not the
13 problem just exclusive to the industry, but it's also a societal
14 problem in general.

15 So as a company, we could have taken a couple different
16 paths with regard to how to address employee health. We can go
17 down the path of least resistance of addressing disease
18 management, which most, you know, insurance companies certainly
19 have a disease management program in place, or you can take the
20 path of targeting potential lifestyle changes and we know that's a
21 healthier place to go down the pathway.

22 So how we embarked upon the wellness program for our
23 choice as a company, we actually employed full-time wellness
24 coaches in the workplace. It's kind of goes along the same
25 principles of doctors making house calls. Our basic coaching

1 interactions include topics that our employees will bring to the
2 coach in the workplace at no additional cost to the employee, and
3 they build a relationship and a rapport with the employee.

4 The elements that make this very successful are two,
5 twofold. One, it's strictly voluntary. Two, it's strictly
6 confidential. And so we begin with one-on-one face-to-face
7 interactions with a coach with a health risk assessment, again on
8 a strictly voluntary basis. Once that relationship is
9 established, the employee has the opportunity to go back to the
10 coach and talk about the issues that came up in the health risk
11 assessment.

12 And as you can see, we've had over the 5-year period of
13 time that we've had this program in place, we've been pretty
14 successful. We've touched over 10,000 employees and I think the
15 third bullet point there is probably the key bullet point, 8,000
16 employees have come forward and asked for help in their own health
17 in regulating their own healthy lifestyle changes. And you can
18 see again the number of opportunities that we've had to promote
19 healthy lifestyle changes with a coaching program.

20 So as I go through some of these next slides to show
21 some of the results, let me, you know, lay my disclaimer here.
22 Our program is not typical. It's actually atypical in the
23 industry. However, the lessons learned is that the type of topics
24 that are coming to light are the same topics that you'll see in
25 other companies and other segments of the industry and also

1 segments of the workplace.

2 What the lessons learned has been for us, what has been
3 beneficial for us as a program, has been that we have now
4 established a one-to-one relationship between a coach, a
5 professional, a certified professional, who can educate and keep
6 the awareness level up and motivate employees. Employees want to
7 be healthy. They don't make unhealthy lifestyle choices because
8 they want to. They usually make it because they haven't been
9 educated to recognize what choices are better for them based on
10 their personal health.

11 And so as I go through some of these slides quickly,
12 you'll see that again, tobacco use, weight management, successful
13 data and blood pressure, but again they are topics that are
14 germane to society as well as to our company.

15 MS. BECKJORD: Thank you. Thank you very much,
16 Mr. Petrancosta.

17 Chairman Sumwalt, I believe we're ready to begin
18 questions.

19 CHAIRMAN SUMWALT: Please. Please proceed. Thank you.

20 MS. BECKJORD: Thank you. The first question I have is
21 for Dr. Gunnels.

22 With the FMCSA, it stated that the medical requirements
23 for obtaining a CDL, they're intended to ensure a reasonable level
24 of baseline health and a fitness to drive. So with that premise,
25 what does the FMCSA see as its role in facilitating the use of a

1 medical treatment and/or a device for assisting those individuals
2 to keep that reasonable level of baseline health?

3 DR. GUNNELS: Well, the exam is a screening examination
4 to determine medical fitness for duty. I just want to emphasize
5 that it's not a comprehensive physical examination. But that
6 being said, in the current system, we have more limited authority,
7 if you will, over the medical examiners. So I'll speak to the
8 proposed system because very soon that will be the context within
9 which we will work.

10 Under that system, we have to rely on medical examiners
11 of all types and there are varying types of medical examiners, to
12 work within their scope of practice, and to recognize their duty
13 to monitor the driver examination to the best of their ability,
14 which sometimes includes a more frequent examination depending on
15 the condition of the driver. So specifically through our role, in
16 treatments and medical devices, we provide a regulatory framework.
17 We provide guidance, but we don't have a direct role in either
18 prescribing or monitoring the treatments and the devices, and I
19 would also add that one of the practitioners authorized to perform
20 examinations in some states, not all states, but in many states,
21 does not have prescribing ability at all, which is the
22 chiropractic.

23 MS. BECKJORD: Thank you.

24 And the second question I had for you is, how does the
25 FMCSA foresee the registry system may curtail the incidences of

1 doctor shopping?

2 DR. GUNNELS: Well, the primary focus of the National
3 Registry is to identify and monitor the practitioner or the
4 medical examiner. So once implemented, by being able to monitor
5 examiners who will have a reporting requirement to us in terms of
6 the numbers of exams and the results of those exams, will be able
7 to do trending and looking at the quality of the performance of
8 the medical examiners to some degree.

9 Now we certainly have the additional ability, when we
10 identify trends to look at examiners independently as well, and
11 look at the details of their examinations, through that program.

12 MS. BECKJORD: Great. Thank you very much.

13 DR. GUNNELS: Sure. Oh, may I add one thing?

14 MS. BECKJORD: Absolutely.

15 DR. GUNNELS: I'd like to add that in the merger of the
16 commercial driver license certificate, within the CDL information
17 system, we also have the National Registry number as a data
18 element. So there will be a linking to the driver in a tracking
19 and monitoring program that way as well.

20 MS. BECKJORD: Thank you. Dr. Molloy.

21 DR. MOLLOY: Dr. Hartenbaum, you mentioned in the
22 hearings we had in 2000, that one of the issues facing the medical
23 community were the vague guidelines that were available to them.
24 I think we've seen an improvement in that area, but in a way,
25 we've seen it going sort of too many specific guidelines, and I

1 think specifically of sleep apnea where the Medical Review Board
2 recommends one set of guidelines for doctors to recommend a sleep
3 study and the medical expert panel another, and just multiple ways
4 to give doctors guidance. How is that a problem for the doctors
5 now?

6 DR. HARTENBAUM: Well, I don't think I'd call them bad
7 guidelines as much as they were guidelines that were not
8 consistent with current best medical practices. I'm not sure that
9 we have too many guidelines, but one of the important issues is
10 separating out the official guidance that's been endorsed by the
11 FMCSA, which is what's in the Medical Examiner Handbook, versus
12 guidance from other medical expert groups, which is the Medical
13 Review Board and medical expert panels.

14 The challenge for examiners is they're trying to do
15 what's based on best current practice, knowing the issues -- you
16 brought up sleep apnea. Recognizing now how significant an issue
17 sleep apnea is in incidence, and trying to find out how do we best
18 screen those drivers that are at highest risk of (a) having sleep
19 apnea and (b) being involved in a crash due to the sleep apnea.

20 So it's trying to find that happy reasonable guidance
21 criteria, that because the FMCSA has not issued anything official
22 yet, the examiners are trying to find something that's at least
23 reasonable and based on best medical practice.

24 What's happening is they're getting pushed back from
25 drivers and from carriers and from the e-mail I just received

1 early this week, from someone in Congress is saying, because it's
2 not mandated by the FMCSA, an examiner can't do any screening for
3 sleep apnea, which is something I had never heard before. But
4 this is what's out there also leading to more examiner shopping,
5 because an examiner says you have BMI of 40, which let's say is an
6 extreme, and you have high blood pressure and you're on four
7 medications, and you fell asleep and are snoring while you're
8 sitting on my exam table, you need to be screened, but the driver
9 says I'm not required to be screened and he'll go to another
10 examiner down the road. So we're having to find good examiners,
11 and I don't want to say the term losing business, but they're not
12 doing quality exams because the drivers and the carriers are
13 choosing less conscientious examiners.

14 DR. MOLLOY: The second question, Dr. Hartenbaum, during
15 our investigations, we often see situations where after an
16 accident, we look at the exam that they had and we look at their
17 physician records for their personal physician, and we find
18 drivers are not correctly indicating conditions they have and are
19 being treated for with their personal physician on their exam for
20 their commercial driver's license. What factors are limiting the
21 ability for doctors who are giving the driver exam to contact
22 personal physicians?

23 DR. HARTENBAUM: Well, you know, first of all the exams,
24 and this goes from whether it's a commercial driver medical exam
25 or a normal health history, is dependent on the examinee being

1 reasonably honest. What the examiner should do if they see any
2 red flag, the medications listed, even though the driver says I
3 don't have heart disease, but they're taking three heart
4 medications, that should be a flag that additional information is
5 needed. Once the examiner recognizes that something is needed, as
6 long as they have appropriate authorization through HIPAA, they
7 should go back and should require that information.

8 One of the challenges that a lot of our examiners are
9 seeing in large multispecialty groups is that their organization
10 is part of a multispecialty group that has an electronic medical
11 record. A driver comes in thinking they're only going for a
12 driver exam, and yet the examiner may have access to all their
13 specialists' medical records because it's part of the EMR, and
14 there's a real question and I've not seen a perfect response from
15 an attorney yet over whether that examiner truly has the right to
16 have access to it unless a release is signed.

17 DR. MOLLOY: Thank you.

18 MS. BECKJORD: Thank you, Dr. Molloy.

19 Dr. Price.

20 DR. PRICE: Thank you. I have a couple of questions for
21 Mr. Petrancosta. Firstly, your presentation, it was very
22 interesting to see the effects that your program has had on weight
23 loss and lowering blood pressure, and I'm curious to know if you
24 have made any efforts to look at the relationships between your
25 program and accident or incident reduction?

1 MR. PETRANCOSTA: We have. To be honest with you, when
2 we first embarked upon this model for a wellness program, we went
3 into it with the safety aspect in mind, and that is, is there a
4 correlation between health employees and work comp reduction,
5 reduction in injuries and work loss days, and we saw that it to be
6 true, pretty dramatic actually. But keep in mind again, our motto
7 is we're a less-than-truckload carrier. A lot of our work is
8 physical activity based. It's not just driving. In fact, we only
9 average about 36 hours of driving per week by a driver. A lot of
10 other activity is loading trucks and delivering freight. And so
11 when you see drivers on the dock before their shift stretching,
12 you know, that you've made progress and it also has a beneficial
13 effect on the health side.

14 On the accident side, we haven't seen that relationship
15 to a great degree. There's been a bit of improvement in those
16 locations where we have a coach, but it hasn't been very
17 significant.

18 DR. PRICE: Thank you. My second question relates to
19 your coaches, and it's about whether in working with the drivers,
20 what would a coach do if he or she was working with a driver and
21 came across a problem that could not be solved, or one that could
22 potentially pose a risk to public health?

23 MR. PETRANCOSTA: Yeah, again, our coaches are certified
24 professionals, but they're not doctors obviously. So part of, you
25 know, the understanding is that if a health condition comes up in

1 the course of conversation, that the coach needs to advise for
2 further consultation or intervention, whether it be seeing a
3 specialist, focused sensation, weight loss program, they certainly
4 will make that recommendation. And I think where the relationship
5 has been very healthy is that there is a great rapport between the
6 coach and the employee because the employee is actually coming to
7 the coach and the workplace and so that you know he or she feels
8 comfortable with that employee.

9 However, there have been some instances that we've
10 experienced over the last 5 years, where the health condition was
11 serious enough that with the approval of the employee, the coach
12 put that employee in a car and drove them to the hospital or
13 called an ambulance, and then in one case, just recently, we had
14 what we thought was a risky situation that required us to take a
15 closer look at, or the coach to take a closer look at whether or
16 not they should be involved and involve the employer. Again,
17 because there was a good working relationship between the employee
18 and the coach, the employee felt comfortable with that, and we
19 took good safe measures.

20 DR. PRICE: Thank you. My final question for you,
21 Mr. Petrancosta, just concerns from a motor carrier perspective,
22 what do you think are some of the more important health and
23 wellness issues that we should be pursuing in the future?

24 MR. PETRANCOSTA: Well, I think there's incredible --
25 this is a good time to ride the wave of momentum that has been

1 established in the media. Take a look yesterday, I brought a copy
2 of the *USA Today*. There was an article on the front page of the
3 Life Section that deals with the importance of exercise, and so
4 every day, you can't help but turn on the TV, read the paper, and
5 the general awareness level for health and making healthy
6 lifestyle choices is at an all time high. So I think, you know,
7 the lessons learned that we've found in our program is that if we
8 can take that momentum and build upon it, in again a very
9 voluntary, very confidential way, employees will gravitate to do
10 the right thing.

11 The challenge is that, you know, our employees are very
12 lucky in that they work in an environment where they're home every
13 day. We get to see them every day, but much unlike Todd's group,
14 owner-operators don't have that opportunity, but they're people.
15 They want the same thing. They want to be healthy. If we can
16 reach out to the greater audience, certainly owner-operators,
17 people that don't have the opportunity to be afforded this type of
18 program, and give them a better outreach program and educate them
19 on how to make healthy lifestyle choices, I think that's a great
20 opportunity that we have in the future.

21 DR. PRICE: Thank you.

22 MS. BECKJORD: Thank you, Dr. Price.

23 Chairman Sumwalt.

24 CHAIRMAN SUMWALT: Great. Thank you very much.

25 We'll go to the parties and I think when we came for our

1 one minute follow-up questions, we started over here with industry
2 for the follow up. So today we'll start with the federal
3 government.

4 DR. PRATT: I'm Stephanie Pratt from NIOSH acting as
5 spokesperson for the federal government group. Our first question
6 comes from GAO, and it's to Dr. Hartenbaum.

7 How prevalent do you think doctor shopping is? And, how
8 does one go about determining that doctor shopping is occurring?

9 DR. HARTENBAUM: I can't begin to say how prevalent it
10 is, but I'm constantly getting stories of I examined a driver and
11 discovered that they were seen by someone else, so I didn't
12 qualify them. We hear stories about companies, examiners that had
13 clients for years and years that were doing the exams and then
14 because the company didn't want this screening done for sleep
15 apnea or didn't like the drivers disqualified because certain
16 medications were felt to be concerning, they would go to a
17 different examiner and a different clinic. So I really can't
18 quantify it. We hear, of course, lots of anecdotal reports, and I
19 do know that there was a concern with one of the GAO reports about
20 the shopping, the doctor shopping.

21 DR. PRATT: Okay. This question is also for
22 Dr. Hartenbaum, and it comes from NIOSH.

23 We've seen a number of NTSB investigations that suggest
24 that use of over-the-counter or prescription medications may have
25 been contributing factors to crashes. In your opinion, is

1 medication use adequately addressed in the current medical exam
2 framework? And here I'm speaking of over-the-counter and
3 prescription medications?

4 DR. HARTENBAUM: I think it's not adequately addressed
5 but part of the problem is it's a challenge to properly address
6 it. The FMCSA does not name most specific medications. What the
7 challenge has been from FMCSA perspective, from commercial driver
8 medical examiners, are some of the medications are specifically
9 named, Methadone, for example, Chantix, question and answer
10 essentially. And some examiners have taken the approach of, well,
11 because it's not named like Oxycontin or Gabapentin, it must be
12 okay. So it's trying to get the examiners to understand that,
13 yes, the regulation allows you to not qualify a driver on those
14 medications.

15 The current regulation, the advisory criteria says if
16 the driver's treating provider says the driver's safe to drive,
17 then the driver can drive. The problem is, the driver goes to the
18 treating provider and says I need a note that I'm safe to be
19 driving on my antidepressant, my pain medication, my muscle
20 relaxant, and the treating provider will say, are you having any
21 side effects? No, I'm not having any side effects. You're okay
22 to work. So that's the problem there.

23 I was recently involved with something with the Federal
24 Transit Administration and they just came out with their new over-
25 the-counter tool kit, but even with that, you've got to recognize

1 that some drivers, some individuals, will have side effects from
2 some medications. Others will not have side effects from the same
3 medications. One of the things to look at is recognizing that
4 multiple medications, any of which can be impairing, can compound
5 the issue especially when you compound it with potentially
6 impairing medical conditions.

7 DR. PRATT: Okay. The next question comes from FMCSA,
8 and it's directed to Dr. Gunnels.

9 It would seem to be difficult to develop medical
10 standards for a large, diverse population. Can you comment on
11 this please?

12 DR. GUNNELS: Well, we have a framework of medical
13 regulations right now, and we have some good, great
14 recommendations actually from our Medical Review Board. So we're
15 fortunate to have this very prominent group of occupational
16 medicine physicians as well as consultants to help us to examine
17 the guidance as well as the regulations.

18 So as you may have seen, we have a number of topics
19 we've already considered. In fact, Dr. Hartenbaum has been a part
20 of that process over the years, and so we have good sets of
21 recommendations in many cases as well as good sets of
22 recommendations to consider, both for guidance as well as
23 regulations.

24 So I think in many cases, we have ample evidence to move
25 forward. I think some of the areas are a little bit more

1 challenging, some very specific areas, but for the most part, we
2 have a basis from which to begin changing our regulations and
3 updating them.

4 DR. PRATT: This is a question also from NIOSH. This is
5 for Mr. Petrancosta.

6 Given that there are challenges of a mobile workforce,
7 regular work schedules and potentially poor food choices on the
8 road for truck drivers, what strategies would you suggest to
9 increase levels of exercise among your employees and also to help
10 them to make better food choices when they're traveling?

11 MR. PETRANCOSTA: Again, I go back to the greatest
12 challenge is trying to manage or regulate time-off tasks or time
13 that is not right in front of you. And so, you know, the lessons
14 that we learned in our experience has been that as much as we
15 can't see things that are not in our line of sight, our greatest
16 value is to provide education and motivation for people to make
17 the right choices because again I think people will always
18 gravitate to doing what is the best for themselves, and that is,
19 you know, make health lifestyle choices.

20 Now, in regard to, you know, what type of choices are on
21 the road, that's a different story. That's a \$64,000 question.
22 There aren't too many opportunities for a truck driver, and I
23 remember going back to my days when I drove a truck, a simple
24 thing like, you know, wanting to stop and eat somewhere. You're
25 dragging a 53-foot trailer behind you and so the options of where

1 you can park that truck are limited. And so it becomes very hard
2 to make choices in regard to where you want to eat, let alone what
3 you eat, because of the fact that you just don't have an
4 opportunity to park that truck at the side of the road in a
5 convenient place. That's a problem. I don't know that know the
6 answer for it, but again I'll go back to an outreach program, a
7 better depth and breadth with regard to educating people on how to
8 make lifestyle changes so when they can park their truck, get out,
9 find a restaurant, that they're making good choices.

10 DR. PRATT: This is another question for
11 Mr. Petrancosta. This comes from FMCSA.

12 Does Con-Way have any data or estimates on the money
13 your company has saved through your health and wellness programs?
14 And as a follow up, what other metrics do you use to gauge the
15 success of your program?

16 MR. PETRANCOSTA: That's a great question. I mean when
17 you think about it, we are a study in itself. We've got 5 years
18 of data that touch 10-, now maybe 11,000 employees. You saw the
19 number of interactions we've had, a couple hundred thousand.
20 Actually we've had about 600,000 when you consider coaches that
21 have actually gone proactively out and spoke with employees. So
22 we have data.

23 To measure the effectiveness, we've done it on the
24 safety side, and we've seen beneficial evidence that there is a
25 one-to-one correlation between a healthy and a safer driver.

1 With regard to health care costs, you need about 3 to 4
2 years of experience, and we're right on the threshold of having
3 that kind of data, and so to answer your questions, yes, we do
4 have data. I think we're going to have more data when it comes to
5 the health care savings.

6 With regard to the type of metrics that we use, the
7 metrics on the safety side are pretty easy. It's the health care
8 side that's a little different. Keep in mind because it is a
9 totally confidential relationship, I can't get, and I wouldn't
10 want to get individual data, health care data, but I can get
11 aggregate. So when you get aggregate, it becomes a little bit
12 more blurred, a little bit more blurry, but we can get that data.

13 DR. PRATT: One question from NIOSH for Dr. Hartenbaum.
14 The link between sleep disorders and crash risks seems intuitive.
15 What other chronic medical conditions would you point out as being
16 those that are among the highest risks for crashes?

17 DR. HARTENBAUM: Well, if we take out fatigue and
18 drowsiness and distracted driving, the other is medications, and
19 medications really does tie into the distraction, the impairment.
20 It's educating the driver to read the labels, to talk to their
21 treating provider, to not take the medications, and then having at
22 least a reasonable, I don't want to say list, but a reasonable
23 criteria of some medications that just perhaps should never be
24 used.

25 So the next one I would say besides sleep apnea is

1 probably medications. Other ones, you know, renal disease is
2 probably important but not as big of a population. So it's a
3 problem, just not as high an impact.

4 DR. PRATT: And I think this is our last question. This
5 is for Dr. Gunnels from FMCSA.

6 Is the medical issue in the CMV industry a doctor
7 problem or a driver problem?

8 DR. GUNNELS: All right. The medical issue in industry,
9 I think industry faces that challenge on both fronts really. I
10 mean, they have to have qualified examiners and, of course, we've
11 got some great examples up here where that's really made a
12 difference. And the National Registry program will only improve
13 industry's ability to identify qualified practitioners, and
14 hopefully within the next couple of years, we'll see the results
15 of that.

16 And in terms of drivers, I think, well, you've done a
17 great job up here talking about the challenges of drivers. It's
18 the motivation to stay healthy because really drivers need to
19 invest in themselves, and your personal health is an investment on
20 many levels, not only to make a living and be productive, but for
21 your family and for other reasons.

22 So I think for industry to bridge that gap and motivate
23 drivers to want to be healthy, not only to comply with their roles
24 in federal and state roles, would be a real boon for everyone.

25 DR. PRATT: Our time is up. Thank you.

1 CHAIRMAN SUMWALT: Okay. Thank you.

2 And for the advocacy table.

3 MR. BRUNBELOW: I'm Matthew Brumbelow with the Insurance
4 Institute for Highway Safety, and our first question is for
5 Dr. Gunnels, from the Truck Safety Coalition.

6 If an examiner passes a driver who has multiple
7 conditions or is taking multiple medications that don't individual
8 disqualify that driver, what is the role of the motor carrier in
9 looking at the bigger picture of the driver's ability to drive
10 safety under your 392.3 regulation?

11 DR. GUNNELS: So you're speaking of the ill or fatigued
12 operator regulation, and I'm not sure I entirely understand the
13 question but you're looking at anyone who is qualifying a driver
14 or attempting to examine a driver with multiple medications and
15 multiple conditions, you can't look individually at any person in
16 terms of medications or conditions. So all those things would
17 factor into the decision.

18 In terms of return to work or the identification of an
19 ill or fatigued operator, really the decision rests on the same
20 framework. It's the identification of the total health of the
21 driver that affects that driver in terms of being able to operate
22 in accordance with the regulations, and that also includes
23 medications.

24 So I'm not sure if I answered that correctly, but there
25 are individual conditions that do disqualify a driver fairly

1 routinely, but also multiple medications and multiple medical
2 conditions together may merit a disqualification decision without
3 any one of those conditions being individually disqualifying.

4 MR. BRUMBELOW: So is there a framework in place for the
5 carrier to make those decisions?

6 DR. GUNNELS: Well, is there a framework? There's no
7 regulation in place. I would say to you that in occupational
8 medicine, in general, there are practice guidelines and clinical
9 best practices, and so those would be the basis for the decision
10 for anybody making that occupation specific decision.

11 MR. BRUMBELOW: Okay. For Dr. Hartenbaum from the
12 Advocates for Highway and Auto Safety.

13 How does driving and working long hours, up to 80 hours
14 per week affect the health and medical conditions of truck
15 drivers?

16 DR. HARTENBAUM: When you're looking at hours worked,
17 it's hours that they're not sleeping. It's hours that they may
18 not be able to eat properly. It's hours that they may not be able
19 exercise. They're not going to take care of themselves properly.
20 There's also a lot of evidence that increased hours, when you're
21 working shift work especially, can affect the number of medical
22 conditions including heart disease. It can increase risk of
23 metabolic syndrome and diabetes depending on the relationships of
24 sleep, of rest, of the time of day working.

25 So it's not that 80 hours is magic. It's just not being

1 able to get adequate sleep, adequate exercise, adequate proper
2 diet can affect their safety.

3 Can I previous respond to that previous question for
4 Dr. Gunnels about the industry?

5 MR. BRUMBELOW: Sure.

6 DR. HARTENBAUM: Because I mean as an occupational
7 physician, I don't want a non-health care professional to be
8 reviewing medical information and then making a determination on
9 should this person be driving or not. First, they may make the
10 wrong decision thinking someone's safe and they're really not as
11 well as saying they're not when they might be.

12 The role of the employer is to get a qualified examiner,
13 make sure the examiner knows what needs to be done and how to
14 properly evaluate the driver for fitness.

15 MR. BRUMBELOW: Thanks.

16 DR. GUNNELS: And I would agree. I was looking in the
17 context of the medical examiner determination.

18 DR. HARTENBAUM: Yeah, I think it's a combination.

19 MR. BRUMBELOW: Then I have a question for
20 Mr. Petrancosta, and that's -- you said you've looked at the
21 change in crash rates when coaches come into a location, and you
22 saw a small effect, and I was wondering if you knew precisely what
23 that effect was?

24 MR. PETRANCOSTA: Well, there has been a small reduction
25 in those locations where we have coaches as opposed to those where

1 we don't have a coach, in types of CMV crashes or actually CMV
2 crashes in total. I'm not quite sure though that there's a direct
3 correlation just yet. There's this hard connect the dots between
4 the change in lifestyle behavior and crashes. It's much easier to
5 do it on the health side and certainly on the worker comp side.
6 So I'm not quite sure that we derived anything. It may just be
7 anecdotal data that doesn't really have a whole lot of meaning
8 right now.

9 MR. BRUMBELOW: But you have looked at the change. So,
10 off the top of your head you're not sure of the percentage
11 reduction in crashes?

12 MR. PETRANCOSTA: It's very small. It's a one to two
13 percent factor. It's very small.

14 MR. BRUMBELOW: Okay. And another way maybe you could
15 get at this, or have you thought of trying to look at crash rates
16 among your 17,000 drivers, based on any of the health conditions
17 you're already measuring? So regardless of whether a coach comes
18 in or not.

19 MR. PETRANCOSTA: I'm not sure I understand the question
20 there.

21 MR. BRUMBELOW: Well, if you're measuring BMI, for
22 example, have you tried to look across the spectrum of your 17,000
23 drivers to see what the relationship between BMI and crash
24 involvement is?

25 MR. PETRANCOSTA: We haven't cored down to degree yet.

1 No, we haven't.

2 MR. BRUMBELOW: It seems like a great data source to
3 look into that kind of thing.

4 MR. PETRANCOSTA: Well, the problem with the data we
5 have, it's too much data, and so, you know, you focus your
6 attention, and that's why I said a little earlier, that we went
7 into it from a safety perspective thinking that it was, you know,
8 the safety issue was work comp, days away from work and in some
9 degrees improve absenteeism. We saw improvements in all three of
10 those areas. We just haven't' gravitated or made the connection
11 yet with regard to crash causation and behavioral changes with
12 regard to lifestyle changes.

13 MR. BRUMBELOW: And for Dr. Gunnels, from the Advocates
14 for Highway and Auto Safety.

15 Given the work of the Medical Review Board and the
16 recommendations to FMCSA, when will the agency revise the medical
17 standards? Is there a plan or a timeline for that?

18 DR. GUNNELS: There's no published timeline right now in
19 terms specifically of the 391.41 framework of requirements, but we
20 are considering all the recommendations and anticipating proposed
21 changes to the medical rules, likely not this year because the
22 focus this year is to publish the National Registry rule. So at
23 the earliest it would be in 2012.

24 MR. BRUMBELOW: And the last question related to that,
25 would the agency eliminate the exemptions to the medical standards

1 provision, epilepsy and for IDDM diabetic drivers?

2 DR. GUNNELS: Well, of one note is that we have not yet
3 granted exemptions for individuals with epilepsy, but that is
4 under consideration, but we do have programs for individuals with
5 diabetes and vision as you all know. We can't anticipate what the
6 proposed rules would require but one alternative is if you propose
7 a new vision standard or new standard for diabetes and we have
8 discussed this at our Medical Review Board meetings, that we would
9 no longer need to have an exemption program because the rules
10 would be effective and therefore exemptions might not be required.
11 So that is under consideration but again we have no rules proposed
12 at this time.

13 MR. BRUMBELOW: Okay. That's all the question that we
14 have.

15 CHAIRMAN SUMWALT: Great. Thank you.

16 And now to the unions and driver associations.

17 MS. VOIE: My name is Ellen Voie. I'm the president of
18 Women in Trucking Association. The first question comes from Todd
19 Spencer of OOIDA, and this is for Dr. Gunnels.

20 What scientific data is relied on for the correlating
21 obesity with crash rate risk?

22 DR. GUNNELS: Well, we are looking at the obesity issue.
23 In terms of what data we rely on, we certainly rely on any data we
24 have in the department. I will tell you that we have a couple of
25 activities right now. One is we have worked with a consortium

1 called Road Ready who has a consortium of folks that contribute
2 the driver medical examination reports to their database. We have
3 some smaller medical groups that sometimes provide us data, but on
4 a larger scale, when we're looking at an issue like obesity, we
5 largely rely on the data that's provided by the Department of
6 Health and Human Services. They have lots of great data on the
7 percentages of people who are obese versus overweight and so the
8 Department of Health and Human Services really is our partner when
9 we take a look at a medical or health problem, and we look at the
10 prevalence of an issue within the general population and try to
11 compare that to the driving population.

12 MS. VOIE: Thank you.

13 This question is for Mr. Petrancosta, and this is from
14 the Teamsters.

15 The Teamsters Union supports the idea of driver wellness
16 programs. How has your wellness program affected occupational
17 injury and illness rates and can you attribute any effect the
18 program has had on driver safety?

19 MR. PETRANCOSTA: When we first test-piloted the
20 program, we test-piloted it in the location where we had 200
21 employees and the work comp rate there was middle of the road. So
22 we didn't stack the deck. And we saw an 80-percent improvement
23 year over year that first year with regard to the improvement in
24 the number of lost workdays as it relates to work comp. So we got
25 pretty excited and we rolled out the program in greater numbers

1 after that.

2 We've never duplicated that same success but we have
3 seen in almost every single location, we have had three things
4 that have happened. We've had a reduced work comp rate, reduced
5 lost workday rate and improved absenteeism. And then there's some
6 tangential elements like improved morale. Employees will feel
7 better about themselves if they're healthier, and an employee who
8 is healthier is usually happier, more productive, comes to work
9 every day. You know, there are side benefits associated with it.

10 Again, to go back to crash causation, you know, one of
11 the difficulties is that we're not getting individual data right
12 because it is totally confidential. So to get aggregate data,
13 it's a little bit harder to dice and splice it based off of
14 specific types of behaviors or specific types of medical issues.
15 It's a little bit more difficult. We're kind of handcuffed to
16 that degree because it is a confidential relationship between the
17 employee and they coach.

18 MS. VOIE: This question is for Dr. Gunnels, and this is
19 from me, and this has been very timely. I hold a private pilot's
20 certificate and a Class A CDL, and next week I'm due for my
21 physicals, and I've finally found one physician who can do both
22 the DOT and the FAA physical, and neither of them are my primary
23 care physicians. So my question for you is what criteria would
24 you use in selecting the DOT medical examiners, and will I need to
25 see three doctors next time?

1 DR. GUNNELS: Well, you should only need to see one
2 doctor for your CDL qualifying examination unless the medical
3 examiner refers you to another practitioners for some additional
4 testing, but in general, it's one physician. And you're right.
5 The FAA has more than 4,000 examiners, but they are all identified
6 and available and they have a medical examiner system of their
7 own. And so our goal is to have a similar system where in every
8 state and every jurisdiction we can identify a group of examiners
9 for people to seek out and part of this deployment of the National
10 Registry IT system, of course, once it's populated with qualified
11 examiners who have been trained and tested, is to have a look up
12 site for the bus and truck companies as well as the commercial
13 drivers to look up examiners and identify examiners they can go
14 to. And so there is a web-based piece of that system that's a
15 look up system which will be by geography and things like that.

16 MS. VOIE: And as a follow-up to the process that's in
17 place, the way I understand it, when a driver gets their physical,
18 they will be able to hold onto their paper physical form for 10
19 days, and after 10 days, that is no longer valid, and I know in
20 the State of Wisconsin, the state patrol has already, if they
21 don't see the medical certificate, if the doctor doesn't somehow
22 get the medical certificate to the company, the state patrol will
23 not allow the driver to show any paperwork because they feel that
24 could be, you know, somehow compromised. So what we're going to
25 do is we're going to work through those details.

1 DR. GUNNELS: Well, that specific issue is an issue
2 that's in progress with the implementation of the medical CDL
3 merger rule which is still in progress, and then also, of course,
4 simultaneously with the National Registry Rule. It does vary by
5 state. So I'm not sure I can speak entirely on a global scale
6 because you're speaking about Wisconsin, right?

7 MS. VOIE: Uh-huh.

8 DR. GUNNELS: And I know that it's different in Indiana
9 and, you know, it's different in other states, but generally the
10 idea eventually, once these two important programs are
11 implemented, is that the driver would not be carrying a paper
12 certificate at all. Right now I think you'll see some changes in
13 nuances as to how long the certificate's retained, whether or not
14 they have an actual card or something issued. So there will be
15 variation. But that is something we're looking at and addressing
16 as we address the implementation of both programs, and eventually
17 it will be addressed on a national scale.

18 MS. VOIE: Good. And just keep in mind that it
19 shouldn't be the driver who always gets, you know --

20 DR. GUNNELS: Yes.

21 MS. VOIE: -- penalized for something the doctor might
22 not have done.

23 DR. GUNNELS: Yes.

24 MS. VOIE: This question is from OOIDA, and this is for
25 you, Dr. Gunnels.

1 Has the Medical Review Board looked at alternatives to
2 expensive CPAP machines or surgery such as dental appliances, et
3 cetera?

4 DR. GUNNELS: The Medical Review Board has looked at a
5 comprehensive evidence review surrounding both obstructive sleep
6 apnea as well as some other sleep disorders like narcolepsy. That
7 was actually several years ago, and published some recommendations
8 and part of that, those evidence reviews is to use meta analysis
9 in a systematic approach to analyzing whatever data are available
10 in terms of practice or in terms of therapies or treatments at the
11 time, and so those things were examined. They've been examined.
12 Again, we try to do periodic updates but at this time, we have no
13 rule proposal in progress.

14 So I guess the short answer to your question is, yes,
15 we've looked at that. We will look at those again and update
16 those evidence reports and reviews once we move closer to actually
17 proposing rules and certainly when we propose rules, we ask
18 everyone to submit to the data as well. And I would say that one
19 of the changes that has happened, at least since we looked at it
20 last time is the proliferation -- well, not really proliferation,
21 but the increase in the use of portable monitoring devices and, of
22 course, the sophistication of the treatments as well. And
23 certainly medications change all the time as well. So those
24 things will be looked at again, as we move forward to propose rule
25 changes.

1 MS. VOIE: And this question is for Bob Petrancosta from
2 the Teamsters. Have you seen any differences in program
3 participation rates based on demographics?

4 MR. PETRANCOSTA: No, we have not.

5 MS. VOIE: Okay. We have one more question and again
6 this from Mr. Spencer from OOIDA for Dr. Gunnels.

7 At one point, the medical expert panel discussed
8 screening for drivers with a BMI of 33 or greater. Why did the
9 panel instead choose 30 for drivers?

10 DR. GUNNELS: Well, the Medical Review Board at the time
11 debates the evidence amongst the group and so the general process
12 was that they would have a vote and try to keep consensus on a
13 particular topic but they don't always achieve consensus on a
14 topic, but that was the subject and still remains the subject of
15 controversy is the body mass index value. And I would tell you
16 that there are a number of factors related to the identification
17 of whether or not someone has sleep apnea, a whole host of factors
18 and those will all be considered when we move forward to look at
19 obstructive sleep apnea and any other sleep disorders.

20 MS. VOIE: Thank you. We have no further questions.

21 CHAIRMAN SUMWALT: All right. Thank you.

22 And we'll go now to the state governments.

23 MR. KEPPLER: Steve Keppler from CVSA. And the first
24 question is from AAMVA for Mr. Petrancosta. It's actually a
25 three-part question.

1 Are your coaches trained on the DOT physical
2 requirements? Part one. Part two, if a coach discovers that an
3 employee has a medical condition and may not longer be medically
4 qualified to drive, are they required to report it? And part
5 three, what action do you take when these situations arise to your
6 knowledge?

7 MR. PETRANCOSTA: Let me make sure I get these questions
8 correct. So the first question are they educated with regard to
9 Part 391.51? And the answer is absolutely yes. So one of the
10 things we do when we hire a coach is we put them through an
11 orientation of not only what our type of operation is and the
12 challenges that our employees have, but certainly how they're
13 regulated on a day-to-day basis.

14 So the answer to the second question, if in the event of
15 a confidential setting that the coach comes to find that an
16 employee is not, let's say their blood pressure reading winds up
17 being too high -- keep in mind they're not medical physicians. So
18 what they will do is send them off to a medical examiner to be
19 reevaluated, and then that determination is made at that level.

20 So I guess that answers question three.

21 MR. KEPPLER: Yes. The next question is for Dr. Gunnels
22 from CVSA.

23 What enforcement authority does FMCSA have over medical
24 practitioners that incorrectly certify drivers or do not follow
25 the Medical Review Board guidelines?

1 DR. GUNNELS: Those are two very different question. So
2 I think I'll begin with the guidelines portion of that because in
3 the current system and in the proposed system, guidelines are just
4 that. So we have to rely on practitioners to make good clinical
5 decisions and document those decisions and use guidelines as
6 appropriate. We have very limited, if no, authority over the
7 medical examiners.

8 But the other question of the qualification decision,
9 what enforcement authority do we have over the qualification
10 system, and I'll speak to the fact that we are anticipating having
11 our National Registry system this year, so we'll have more
12 authority over the drivers, I mean over the medical examiners. If
13 we learn that someone has improperly qualified a driver, then with
14 the National Registry system, we can remove them from the National
15 Registry program and they will not be allowed to perform
16 examinations. Currently if we discover by any number of methods,
17 sometimes reported by a state official that someone was
18 disqualified or maybe during a compliance review, we'll have some
19 of the investigators find by virtue of looking at the medical
20 examination reports that people were improperly qualified, then we
21 can take further action in terms of speaking to the medical
22 examiners and certainly we look very carefully at the drivers and
23 they may be required to repeat the examination. It's very
24 circumstantial, but in many cases we have had to invalidate the
25 medical examination depending on the circumstances.

1 But we'll have a systematic approach with the National
2 Registry and we'll have more control of our ability to identify
3 improperly qualified drivers by examiners who are not doing a good
4 job once that program's implemented.

5 MR. KEPPLER: Thank you.

6 Next question is for Dr. Hartenbaum and Mr. Petrancosta.

7 Do you believe sleep apnea screening should be a
8 requirement for CMV drivers?

9 DR. HARTENBAUM: I think that screening a driver for any
10 medical condition that may make them unsafe to drive should be
11 done at the examiner's office. If there's additional testing
12 needed, and the driver's found to be at high risk of having sleep
13 apnea and in the category of high risk of sleep apnea and high
14 risk of crashes, then, yes, additional diagnostic testing should
15 be done.

16 So screening may be looking at neck circumference, body
17 mass index, blood pressure, history of snoring and so forth, is
18 the diagnostic testing which would only be appropriate in those
19 drivers that screen at being at high risk of having that
20 condition.

21 MR. PETRANCOSTA: I would totally concur with
22 Dr. Hartenbaum. Again, I go back to the dilemma that we face as
23 an employer. It's impossible for us to be able to know whether or
24 not an employee suffers from a sleep disorder. There may be some
25 evidence post-crash but by that time, it's too late.

1 So therefore, you know, we know that that's problematic
2 in regard to cost for the industry, but there are some emerging
3 technologies with regard to screening that are presenting itself
4 to be more cost beneficial and certainly more acceptable probably
5 in the future, and we would gravitate toward, you know, there
6 would be some I would say more weighty -- well, I would support
7 the 391.51 have a place for employee screening, driver screenings.

8 MR. KEPPLER: Next question is for Dr. Hartenbaum. The
9 issue came up a little bit earlier between the differences if a
10 driver has different examiners, his or her personal examiner
11 versus their DOT examiner. Do you believe that DOT medical
12 examiners should be required to check the driver's personal
13 physician's history?

14 DR. HARTENBAUM: I think there's probably a
15 confidentiality issue with a commercial driver medical examiner.
16 I tend not to use the DOT term because that encompasses other
17 transportation modes as well and the personal physician. We
18 really need to count on the driver being honest as far as what
19 medications they're taking, on what conditions they've been
20 treated for. I think you really run into a information overload
21 if the examiner's required to review all the medical records of
22 every driver.

23 MR. KEPPLER: Last question and this is for the entire
24 panel. What do you believe are the most critical driver health-
25 related issues?

1 DR. HARTENBAUM: Well, I believe in looking at the
2 American population in general, and I know we've certainly talked
3 about obesity, but I believe cardiovascular disease which is the
4 leading cause of death and injury and the leading cause of disease
5 in the United States is one of the most critical issues, and
6 thereby also predisposes people to very serious medical conditions
7 which includes diabetes, the propensity towards obesity and morbid
8 obesity, and obviously sleep disorders and things like that.

9 So that's the framework I use. I try to look at the
10 epidemiology of death and disease and how many people that
11 affects, and I believe that cardiovascular disease is our most
12 serious issue. Also, of course, hypertension within that and the
13 propensity to have a stroke since more than 75 million Americans
14 suffer from some form of hypertension in the United States.

15 DR. GUNNELS: And I'm looking at some data from the
16 University of Utah where they looked at the driver population and
17 certainly it's the cardiovascular risk factors. They seem to be
18 higher in the commercial driver population, the smoking, the high
19 cholesterol, the high blood pressure. There's a higher incidence
20 of diabetes and a significantly higher body mass index is a group.
21 So when you look at the risk factors, it's the cardiovascular
22 disease that seems to be the highest overall health concern. When
23 we're looking for safety, it's probably the sleep disorders, the
24 fatigue, the drowsiness and the medications, which again all tie
25 in together.

1 MR. PETRANCOSTA: Yeah, our data collected over the
2 years has shown that overwhelmingly the number one topic that our
3 employees bring to a wellness coach intervention or discussion is
4 on blood pressure and hypertension followed by nutrition.

5 MR. KEPPLER: Thank you very much, Mr. Chairman.

6 CHAIRMAN SUMWALT: Thank you very much.

7 So to the industry table.

8 MR. SCHWEITZER: Thank you. I'm Rick Schweitzer for the
9 National Private Truck Council. Our first question is for the
10 panel from the American Bus Association.

11 The regulations currently require a minimum of 10 hours
12 of driver wellness training with a certificate issued by a
13 qualified trainer on completion. Do you believe this rule has any
14 real effect on driver wellness and safety or do you have a
15 recommendation for improvements?

16 MR. PETRANCOSTA: You're taking about long combination
17 vehicles? Longer combination vehicles?

18 MR. SCHWEITZER: No, just general.

19 MR. PETRANCOSTA: I'm not familiar with what the 10
20 hours -- what you're speaking to directly.

21 MR. SCHWEITZER: A number of years ago they brought the
22 rule out requiring classroom training and driver wellness and
23 there was whistleblower protection and I guess my question is 10
24 hours of classroom training and a certificate provided to the
25 driver, entered into the driver's file at the end. Would you

1 consider that as being effective in providing improvements in
2 driver's wellness and ultimately highway safety or do you think
3 there are areas that we could look for improvements?

4 MR. PETRANCOSTA: Yeah, my understanding was that it was
5 borne out of a long combination vehicle requirement but either
6 way, our recommendation has been, you know, that because of our
7 wellness program, we will educate consistently. So obviously our
8 employees go well over 10 hours, you know, at a time, a year.

9 To answer your question, is it enough time? I think
10 it's really more of a matter of content. It's really more a
11 matter of what the training consists of, and I'm not quite sure
12 that the rulemaking -- you know, maybe Bill could shake his head
13 yes or no, whether or not the rulemaking addressed what content it
14 should be. It just talked about driver health. It didn't say
15 anything specifically with regard to what is to be covered under
16 driver health, and I think that's the path we want to go down in a
17 little more detail. We have enough data now in the industry to
18 recognize what we should be talking about, what we should be
19 training to, with regard to lifestyle changes and driver health.

20 So I'm not quite sure that time is an essential element.
21 It's the content of the program.

22 DR. GUNNELS: And I would agree with that, and I would
23 say that we would probably have opportunities to improve that
24 regulation and we also can look to groups like the Healthy
25 Trucking Association of America who is doing some great work in

1 what can be done to improve things.

2 DR. HARTENBAUM: And I think also there's a component in
3 the commercial driver medical examiner process where they're
4 expecting examiners to be doing some wellness coaching as well at
5 the time of their examination. So the key is not the number of
6 hours. It's the quality, not the quantity.

7 MR. SCHWEITZER: Thanks.

8 To Mr. Petrancosta, from ATA.

9 You discussed expanding wellness programs to owner-
10 operators and other drivers outside the less-than-truckload
11 industry. Based on Con-Way's experience, how would you advise the
12 FMCSA and the industry on implementing such an informational
13 campaign?

14 MR. PETRANCOSTA: Again, one of the lessons we learned
15 is that the reason why we don't touch every single one of our own
16 employees with a wellness coach, we have 48 full-time wellness
17 coaches but that doesn't touch our entire population. The reason
18 for that is that it's just isn't feasible sometimes to put a
19 wellness coach in a location where you only have 3 or 4 or 5 or 10
20 employees, and then geographically there's limitations.

21 So what we've done is about 2 years ago, we started
22 testing a model, a long distance model through telephonics and
23 online Internet. I mean, this is the media that quite frankly
24 everybody exploits every single day. Most people have computers.
25 They certainly have cell phones. They're very easy to reach, and

1 we hired a full-time general dietitian to support the nutrition
2 training that we do in our wellness interventions, and over 2
3 years, that has been very successful. We've had one person
4 through our wellness coach network communicate directly with
5 people who don't have a wellness coach in that location, that
6 we're doing it through telephonics and through Internet
7 capabilities. So I think there's a possibility or an opportunity
8 I should say for that type of medium to be used.

9 Again, I go back to general outreach. I think there's a
10 general outreach program that has to be undertaken with regard to
11 drivers who don't see home but every 2 to 3 weeks who don't have
12 the opportunity to have a large employer to afford a wellness
13 program and represent them. That's the employee that's your
14 greatest challenge.

15 MR. SCHWEITZER: Thank you.

16 This is for Dr. Gunnels from the United Motorcoach
17 Association.

18 Has FMCSA determined if there will be a reduction in the
19 number of medical examiners once the registry is in place? And if
20 so, what's the extent of that reduction and anticipated impact on
21 the motor carrier industry?

22 DR. GUNNELS: Well, we certainly did a regulatory
23 analysis when we proposed the National Registry rule, and we
24 looked at the issue of availability of medical examiners, and
25 while we do anticipate that there are practitioners who will drop

1 out now, given the fact that there will be a cost to a training
2 requirement and a testing requirement, we're hoping that through
3 the use of outreach activities with the medical community and with
4 many national organizations and the different practitioners, that
5 we will identify practitioners in all the states and jurisdictions
6 and, in fact, we have. In our listserv, we have groups of
7 practitioners in every state in the United States to at least form
8 the core group of practitioners who will do these exams,
9 recognizing that that's about 5,000 of 30 or 40,000 examiners
10 we'll need.

11 So I guess in response to your question, we know that's
12 a possibility, that we will have some reduction in the numbers of
13 people doing exams, but we're hoping also given that, we'll have
14 an increase, and I would also add that we've been meeting with
15 lots of groups like say the Convenient Care Association of
16 America, who includes members such as Wal-Mart, and there are
17 groups like that who have expressed interest in adding
18 practitioners to do examines say at Wal-Mart clinics, such as
19 nurse practitioners or physician assistants around the United
20 States, also with the focus on having affordable examinations for
21 drivers. So we are meeting with different groups like that
22 association. We've been contacted by health care systems like
23 Christus in the Southwest, and they're also committed to making
24 sure drivers have access to examinations that are affordable.

25 MR. SCHWEITZER: Thank you.

1 This question is for Dr. Gunnels and Dr. Hartenbaum.

2 It's from the National Private Truck Council. How does
3 the FMCSA expedite and facilitate the process of getting the best
4 available current medical knowledge into the driver medical exam?

5 DR. GUNNELS: Well, I can answer the question on behalf
6 of FMCSA, in that, you know, we have over the last few years
7 improved our website and our communication and outreach to the
8 medical examiner community and form partnerships, but as you know,
9 as everyone knows, we have not yet proposed changes to the
10 regulations, but we are very specifically -- other than, of
11 course, the critical regulation, one of them which is the National
12 Registry rule, we are staging ourselves to be able to communicate
13 those changes in the regulations and guidance as they change in
14 the coming years.

15 DR. HARTENBAUM: I mean, it's separating out the
16 official FMCSA guidance which is through the website right now.
17 Once the National Registry is in place, that will be an excellent
18 means for communicating that. Currently, when there's a medical
19 expert panel, which is unofficial guidance, and I use the term
20 very loosely as being guidance, it's information based on current
21 best practices. There are different medical organizations that
22 may be disseminating this. There are other listservs that are
23 outside the FMCSA that are notifying examiners that this is what
24 the expert panel on this topic said and has recommended. The
25 challenge, because it's not official guidance, it becomes that

1 challenge of what should the examiners use in making their
2 qualification determination.

3 MR. SCHWEITZER: This question is for Dr. Gunnels, from
4 ATA.

5 Has the Medical Review Board studied the health and
6 wellness research on driver fatigue and made any recommendations
7 to FMCSA on the basis of that research? If not, do you believe
8 the MRB should examine this research?

9 DR. GUNNELS: Well, the focus of the medical
10 requirements, fitness for duty, are really the medical conditions
11 or the body systems and, of course, fatigue is a factor, but it's
12 not traditionally within the realm of the general medical fitness
13 for duty requirements. That being said, when we look at the
14 respiratory system and the overall general health of the driver,
15 it's certainly a factor that plays into the decision making.

16 So most of that work is done right now through our
17 research and information technology office with our fatigue
18 management research program which is fairly extensive, and we
19 collaborate with NIOSH and some of the other agencies on that
20 work. And so that being said, we certainly will factor what our
21 current research is in supporting the regulations that are
22 proposed as well the ones we will be proposing for the medical
23 rules. So it's important work and it should be factored in.

24 MR. SCHWEITZER: Thank you, Mr. Chairman.

25 CHAIRMAN SUMWALT: Thank you very much. Great questions

1 from the Parties. And we're on schedule to move into the
2 Technical Panel, but we have been doing this. I want to make sure
3 that there are no burning questions if you will, and if you have
4 them, now would be a good time to ask. Let's see a show of hands
5 if anybody has one last burning question.

6 So, okay. All right. So what we'll do, anybody else
7 with a real burning question?

8 No. Okay. Then why don't we just head back to the
9 industry table.

10 MR. SCHWEITZER: Thank you. This is also for
11 Dr. Gunnels, from ATA.

12 It says once the National Registry of certified medical
13 examiners is active, your office will have the ability to
14 decertify an examiner that has improperly certified drivers.
15 Should this happen, what would be the status of other drivers
16 certified by the now decertified professional?

17 DR. GUNNELS: Well, I can't really speak to the details
18 of the removal of medical examiners from the National Registry
19 right now because it's a proposed rule in progress. I'm sorry. I
20 can't. So stay tuned.

21 CHAIRMAN SUMWALT: Okay. And to the federal
22 government's table.

23 DR. PRATT: Okay. This question comes for NHTSA.

24 The commercial driver population is aging, and what
25 unique medical factors should we be concerned about? And in the

1 interest of time, I'll direct that to Dr. Hartenbaum if that's
2 okay.

3 DR. HARTENBAUM: Probably the biggest is the multiple
4 medical conditions. Lots of times examiners look at the
5 conditions in isolation. Sometimes they look at the conditions in
6 conjunction with the medical treatment. One of the
7 recommendations the Medical Review Board had made was that there
8 should be a requirement to look at multiple conditions. Drivers
9 that have diabetes are not the same as a driver that has diabetes
10 and hypertension or a driver that has diabetes, hypertension and
11 kidney disease. So as the driver ages, they tend to have more
12 medical conditions, they tend to be taking more medications, and
13 they tend to metabolize the medications differently. So it's
14 keeping all those factors in mind and not just looking at
15 medication A in isolation, medical condition A in isolation, but
16 looking at the full spectrum of how any of those might interact
17 and may potentially impair safe operation of that vehicle.

18 CHAIRMAN SUMWALT: Okay. Ms. Beckjord.

19 MS. BECKJORD: Thank you. Dr. Molloy.

20 DR. MOLLOY: Just as a follow on to that question, since
21 we have guidance kind of focused on single drugs and single
22 medical conditions, yet we have a number of drivers who have
23 multiple medical conditions who are on multiple drugs,
24 Dr. Hartenbaum, what does that say about the person who should be
25 doing the medical exam or the certifying exam?

1 DR. HARTENBAUM: The Medical Review Board's
2 recommendation was very clearly that drivers that have multiple
3 medical conditions that may be disqualifying should have their
4 examinations done by a M.D. or D.O. So that was the
5 recommendation from the Medical Review Board.

6 It's really essential that when a driver has multiple
7 conditions, that the examiner understands not just what a
8 commercial driver does, not just what the diagnosis and what the
9 guidance indicates, but what the prognosis, what the treatment,
10 what the interactions of all those conditions might be. So they
11 really need to have that much more detailed knowledge of the
12 medical conditions and treatments.

13 DR. MOLLOY: Thank you. That's all I have.

14 MS. BECKJORD: Dr. Marshall.

15 DR. MARSHALL: I have a couple of questions for
16 Mr. Petrancosta. I was wondering if you could tell us how much
17 per employee your wellness program costs?

18 MR. PETRANCOSTA: The total program per employee? Oh.
19 Let me do some quick math in my head here. A lot. It's several
20 million dollars total budget. Keep in mind we have 48 full-time
21 employees. So if you would factor in salary, benefits, you know,
22 it's a substantial investment.

23 DR. MARSHALL: My other question was I was wondering
24 whether your having a health and wellness program has actually
25 affected turnover in your company because that seems to be rampant

1 in the industry?

2 MR. PETRANCOSTA: Yeah, as a matter of fact, it's had a
3 reverse effect, and what we're learning is that it's becoming a
4 recruiting tool. Keep in mind, you've got an opportunity now for
5 employee to go to a company that he or she will have a wellness
6 coach on the premise that they can seek out every single day of
7 the week if they wanted to with no additional cost to that
8 employee.

9 Further, we offer our services, wellness program
10 service, to their family members, too. Why wouldn't we? And so
11 it's a win-win all the way round for everybody.

12 And so as word has gotten out in the industry that we
13 have a wellness program to this magnitude, we're probably the only
14 carrier that does have it to this magnitude. It becomes a
15 differentiation for us with regard to our competition then, and
16 it's an opportunity for the employee to pick a carrier who's going
17 to invest in their health and wellness.

18 DR. MARSHALL: Thank you.

19 MS. BECKJORD: Dr. Price.

20 DR. PRICE: I have one final question for Dr. Gunnels.

21 We discussed briefly yesterday about problems that
22 drivers are experiencing using their sleeper berths for heat and
23 air conditioning to rest and sleep or in falling potentially into
24 violations of idling laws that are state specific. Does the FMCSA
25 have a mechanism to work with the states to facilitate the use of

1 CPAPs as a medical device in light of those idling laws?

2 DR. GUNNELS: We don't have data on the treatment, the
3 therapies, including medical devices like CPAP, although
4 anecdotally, we're aware of the problems reported by drivers from
5 talking to drivers. So I would say the answer is we don't have
6 anything in place at this time regarding that. It's something we
7 would look at as we move forward with changes to the regulations
8 and guidance in the future.

9 DR. PRICE: Thank you.

10 MS. BECKJORD: Okay. The question I have is for
11 Dr. Gunnels. You had talked briefly about tying the Registry, the
12 National Registry to the CDL program. Can you explain that just
13 briefly?

14 DR. GUNNELS: Well, these two programs must be
15 integrated to some degree, and we've anticipated that in the final
16 rule for the medical CDL merger as well as the proposed rule for
17 the National Registry. So that's why I mentioned that in the
18 medical certificate we're adding the National Registry number so
19 that the driver can be linked to the practitioner once the
20 National Registry is established.

21 And certainly these programs as they evolve will have a
22 close link because we'll be able to connect drivers to examiners
23 and monitor the performance of examiners as well as the
24 qualification decision.

25 So that was the integration piece, and there's some

1 other related activities to implementation in the states and as
2 both programs are implemented that you'll be hearing about.

3 MS. BECKJORD: Okay. Thank you.

4 My other question then would be follow up to that. Does
5 the FMCSA anticipate a way, a reporting mechanism for perhaps not
6 the medical examiner but a primary care physician or a family
7 member that's aware of an issue with a driver to report that to
8 the FMCSA?

9 DR. GUNNELS: So you're speaking about say a public
10 hotline or something about medically unfit operators on the road.
11 So that's not something right now that is under consideration in
12 terms of a national call center or any of that type of model. We
13 certainly receive calls from the public and the personnel out in
14 our divisions and in the states receive information, and when we
15 have information, we take action.

16 MS. BECKJORD: Thank you.

17 And then I have just one last thing I'd like to ask
18 Mr. Petrancosta.

19 Since you were discussing that your program is a real
20 recruiting tool and kind of prevention of over, you know, overturn
21 of drivers and the cost associated with that, would you like to
22 submit the total cost of your program and then when you have a
23 chance, the per employee cost into our docket, if that's something
24 that you can do?

25 MR. PETRANCOSTA: We can do that.

1 MS. BECKJORD: Thank you. Chairman Sumwalt.

2 CHAIRMAN SUMWALT: Thank you. I've offered to everyone
3 else. How about the Technical Panel? Are there any burning
4 questions? I'll turn it back to you, Ms. Beckjord, and then we'll
5 go down the line.

6 MS. BECKJORD: I do not. Dr. Price?

7 DR. PRICE: No, sir.

8 CHAIRMAN SUMWALT: Dr. Molloy?

9 DR. MOLLOY: None for me.

10 CHAIRMAN SUMWALT: Go ahead.

11 DR. MARSHALL: This is for Mr. Petrancosta. It's been
12 mentioned several times now that stress is a big factor when it
13 comes to driver safety, and I was just wondering, how do you deal
14 with stress due to your operation in terms of your health and
15 wellness program because obviously it can manifest itself in
16 physical illness as well?

17 MR. PETRANCOSTA: Yeah, one of the beauties of our
18 program over the years, we've been able to collect data that
19 allows us target efficiently and effectively where the greater
20 issues are from a medical standpoint because they're real, and so
21 stress is obviously the number one issue that we see, and we know
22 that there's a correlation between release of stress and exercise,
23 and so by promoting exercise, by promoting programs that allow
24 employees to, you know, a perfect example, in our general office,
25 we have about 350 employees. We put a walkway around the facility

1 and so it's not uncommon during lunch or during breaks to see
2 people going out and walking their break. In the winter, in
3 Michigan, they'll do it in underground parking because it's
4 warmer.

5 And you do have to be creative with regard to how you
6 target your programs but, you know, again that goes back and, you
7 know, it's not a silver bullet. It's education, education,
8 education, to keep the awareness level up, make it easy for the
9 employee to understand why it's beneficial for them to release
10 that stress.

11 DR. MARSHALL: Have you been willing to make any
12 operational changes in your company as part of this health and
13 wellness program?

14 MR. PETRANCOSTA: I don't know that we've had any reason
15 to do that to be honest with you.

16 DR. MARSHALL: Those are all the questions I had.

17 CHAIRMAN SUMWALT: Thank you. And the best news all
18 morning is that I have no questions. So we are actually a few
19 minutes ahead of time thanks to all of the cooperation of
20 everyone, and so we will take a break for lunch. We'll be back at
21 1:00.

22 (Whereupon, at 12:00 noon, a lunch recess was taken.)

23

24

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26

A F T E R N O O N S E S S I O N

(1:00 p.m.)

1
2
3 CHAIRMAN SUMWALT: Okay. If everyone could take your
4 seats, we'll get started in about a minute.

5 Okay. Now that we've had a session about healthy eating
6 and all, then you go outside and there's not much to eat. But we
7 are back in session, and, Dr. Marshall, are you ready to introduce
8 the next group of panelists?

9 DR. MARSHALL: I am. The next session is going to be on
10 Enhanced Vehicle Safety Technology: Crash Avoidance. The purpose
11 of this panel is to discuss electronic stability control,
12 collision avoidance systems and emerging crash prevention
13 technologies.

14 Our Technical Panel members are Ms. Jennifer Morrison
15 and Mr. Shane Lack. Ms. Morrison.

16 MS. MORRISON: Thank you. And welcome to this
17 afternoon's session on collision avoidance.

18 On this panel we have Mr. Richard Conklin, the product
19 manager of stability systems at Bendix Commercial Vehicles;
20 Mr. Alan Korn, the director of vehicle dynamics and control at
21 Meritor WABCO Vehicle Control Systems; Mr. Dean Newell, the vice
22 president of safety and training at Maverick Transportation; and
23 Mr. Nathaniel Beuse, the director of the Office of Crash Avoidance
24 Standards at the National Highway Traffic Safety Administration.

25 Mr. Conklin, if you will start us off on this panel with

1 your presentation, please?

2 MR. CONKLIN: Thank you, Jennifer, and thank you for the
3 opportunity to share Bendix's current products as well as future
4 intent regarding collision mitigation systems for commercial
5 vehicles.

6 First and foremost, it's important to remember that the
7 driver is responsible for control and safe operation of the
8 vehicle at all times. A collision mitigation system cannot take
9 the place of a safe, well-trained driver using good driving
10 practices.

11 That being said, moments of distraction do occur.
12 Collision mitigation systems can alert the driver to developing
13 situations that the driver may have missed or misinterpreted. An
14 electronic stability control system, commonly known as ESP or ESC,
15 includes antilock brakes, traction control, yaw control and
16 rollover prevention features. In production since 2005, Bendix
17 has over 115,000 ESP systems in service in North America. It's
18 available across a wide range of airbrake vehicle types and from
19 numerous vehicle manufacturers.

20 ESC has the ability to safely activate the brakes across
21 the vehicle. As such, it's the basis for active collision
22 mitigation systems where braking is used.

23 Stability systems like ESC sense and react to what is
24 happening to the truck in real time. They are reactive in nature.
25 We have the technology in the market today to look at the intended

1 path of travel of the vehicle, engage the risks that may exist due
2 to other vehicles and objects before anything happens to the
3 truck.

4 In this way, collision mitigation systems are predictive
5 in nature. They have to estimate what will happen in the near
6 future on the truck based on what they sense.

7 Bendix, using radar-based technology, provides a product
8 called Wingman Advanced which includes adaptive cruise control,
9 stationary object alerts and collision mitigation functions.

10 Warnings and interventions provided by the system vary
11 by situation and are progressive in nature. For instance, an
12 adaptive cruise control, the system works to maintain a safe
13 following distance between the truck and the vehicle ahead of it.
14 To do this, the system may electronically adjust the throttle,
15 engine retarder and may bring on the brakes depending on the
16 situation. If all of those warnings and preventions occur and a
17 collision scenarios continues to develop, the more aggressive
18 collision mitigation interventions may occur assuming the driver
19 has disregarded the warnings or not reacted in a way to avoid the
20 potential collision.

21 The importance of the alerts and warnings cannot be
22 understated. We believe it to be very important to warn a driver
23 of a potential situation before initiating an intervention, such
24 that the driver can decide the best way to avoid a collision.

25 An additional warning provided by the Wingman System is

1 stationary object alert, which is given when the host vehicle
2 approaches a sizeable metallic object in the truck's path of
3 travel. Situations where this is most beneficial are limited
4 visibility scenarios like night, heavy rain or fog.

5 In the March 2011 issue of Volvo's *Driver Digest*
6 magazine, there is an article entitled "A Decision That Saves
7 Lives." The article details a recent accident prevention
8 attributed to the driver's response to a stationary object alert
9 from the driver's perspective.

10 Some of Bendix's expertise on radars comes from the
11 Vorad product family which introduced a radar based collision
12 warning system for trucks in 1995. It's in its fourth generation,
13 90,000 units in the field. Vorad can provide an adaptive cruise
14 control function with following distance control and collision
15 warnings. Vorad does not provide any braking functions. Vorad is
16 unique in the marketplace as it can be factory installed or can be
17 fitted to existing trucks in the aftermarket.

18 Moving into future developments in collision mitigation
19 technologies, near term developments from Bendix will continue to
20 lower the cost and enhance already good systems by adding cameras
21 as part of an integrated collision mitigation package. Cameras
22 and radars have different strengths and weaknesses which
23 compliment each other. For instance, the field of view of a
24 camera tends to be short and wide for radar. The field of view is
25 long and narrow. Radar is better in inclement weather. Cameras

1 do better at recognizing object types. Lane departure warning
2 systems, available for sometime as standalone systems, look lane
3 markings through the use of a windshield mounted camera, warning
4 when markings have been approached or crossed. Bendix will expand
5 camera use to help confirm and clarify radar recognized events.

6 When information from both cameras and radar can be used
7 to identify objects, the confidence level and the correct action
8 is much higher. The use of two independent sensing technologies,
9 camera and radar makes this possible. This concept is generally
10 referred to as sensor fusion.

11 Into 2013 and beyond, this concept of fusion will give
12 way to features such as pedestrian detection and roadside
13 recognition, further extending the situational warnings provided
14 to the driver.

15 In closing, the driver's always in control of the
16 vehicle and responsible for the safe operation of it. Collision
17 mitigation systems, as I've described, are intended to warn the
18 driver of potential situations and lessen the severity of the
19 crash. In some cases, they may help prevent it. The current
20 state of collision mitigation technologies for commercial vehicles
21 is robust in providing benefits in safety and cost avoidance today
22 with further improvements on the near horizon.

23 Thank you very much for your time and attention.

24 MS. MORRISON: Thank you, Mr. Conklin.

25 Mr. Korn, I believe you also have a presentation for us.

1 MR. KORN: Thanks, Jennifer, and good afternoon to
2 everyone. On behalf of Meritor WABCO, I'm very pleased to have
3 the opportunity to be participating in this NTSB Truck and Bus
4 Safety Forum.

5 Meritor WABCO, we are a 50-50 joint venture between
6 Meritor and WABCO Vehicle Control Systems. We were established in
7 1990, and we're focused on providing advanced brake control
8 technology to the North American commercial vehicle industry. Our
9 mission, especially as it pertains to today's session is simply to
10 reduce commercial vehicle crashes, save lives and prevent
11 injuries. Our vision to achieve this is to utilize innovative
12 safety systems to get to this objective.

13 I'd like to begin by just reviewing where we are
14 regarding heavy truck and bus crashes. As you can see from this
15 graph, truck and bus crashes that involve fatalities have began to
16 drop significantly in 2005 even though miles traveled continue to
17 increase. I attribute this to the efforts and cooperation between
18 the carriers, OEMs, suppliers, government agencies, safety
19 advocates and the professionalism of our drivers.

20 As we've made significant progress over the years, you
21 can see in 2009, there were still 3380 fatalities involving
22 commercial vehicle crashes, and this is what we have to go after
23 right now. And you'll see the exact same trend regarding injury
24 crashes. Significant reductions, the trend is definitely
25 downward, but in 2009, there were 93,000 injuries involving

1 commercial vehicle crashes and buses.

2 At Meritor WABCO, our safety system development
3 philosophy is very much a building block type of approach. You
4 can see at the base of that pyramid, we have the foundation brake
5 and controls, the FMVSS 121 braking system, and ABS. ABS was
6 mandated by NHTSA for commercial vehicles above 10,000 pounds, 97
7 for tractors, 98 for trailers and buses.

8 And now with the advent of more powerful
9 microcontrollers, ABS can do a lot more than just ABS. By adding
10 additional sensors, control valves and software, ABS can be
11 expanded to include safety systems such as stability control and
12 collision mitigation. And now with these various control systems
13 on the vehicle, with lane departure systems on the vehicle,
14 there's a tremendous amount of data that exists that really
15 dictate and can show how this vehicle is being driven. And so the
16 key now is to extract this information and process it in a useable
17 format so that the carriers can better manage their vehicles and
18 drivers.

19 So how can we take the next step and further improve
20 commercial vehicle safety? It's a simple thing. I know this
21 slide is a very big simplification. There's a normal driving
22 mode, a crash avoidance mode and the crash itself, and that's
23 where crashworthiness of the vehicle comes into play.

24 At Meritor WABCO, we've been focusing in the crash
25 avoidance mode with our various control systems, but what is going

1 to happen in the future, there is so much data available from the
2 crash itself and just from driving, what we hope to do is take
3 this information, further enhance our control systems driven by
4 data and also identify particular driving characteristics. How
5 can we modify these driving characteristics so that 100 percent of
6 the time is spend in the normal driving mode?

7 So I have a couple of video clips on the technologies.
8 ABS basically attempts to prevent wheel lock, traction control,
9 prevents power induced jack knifes. Stability control helps
10 prevent loss of control, crashes as well as rollover crashes.
11 Collision mitigation systems reduce the risk of rear end crashes
12 by automatically applying the foundation brakes when necessary,
13 and lane departure systems use machine vision to warn against
14 unintended draft out of the lane. So if the vehicle starts to
15 drift, the driver hasn't signaled, it'll provide a warning. It's
16 based on the actual lane markings on this highway. There's a
17 camera.

18 So regarding our data loggings product, Safety Direct,
19 again there's a tremendous amount of data on the vehicle databus,
20 the 1939 databus. All the control systems are feeding information
21 into that data bus. The data logger, which is part of the lane
22 departure system, extracts that information, processes it to a
23 degree and then uploads it to the telematic device on the vehicle.
24 The telematic device offloads the data to either a satellite or a
25 cellular tower, and then the data is transmitted to a server where

1 it's further processed, and then the fleet can access their data
2 over the Internet. That's simply how it works.

3 And basically there are some customized reports that
4 come out of this system. This is a driver report. So all the
5 drivers and all the vehicles are included in the report. You can
6 see across the top, those are the key variables such excessive
7 braking, lane departure warnings, collision mitigation braking
8 events, and this system is keeping track of how many times these
9 systems are activated, and it's displayed in miles between events.
10 So we're looking for large numbers. The further the distance
11 between these systems activating, the better.

12 And then when there's a very serious event, like a
13 collision mitigation braking event, the raw data is stored in a
14 time history. So variables such as following distance, vehicle
15 speed, vehicle deceleration, they're all tracked, and you can more
16 or less try to determine exactly what caused the event, and in
17 addition to that, there's a video included as well. And here's a
18 video clip. This is from one of our test drivers.

19 And so you would have that data to analyze if there was
20 a particular crash, exactly what happens, to try to put things
21 together with the goal being improvement.

22 So in conclusion, I just want to say that these
23 commercial vehicle safety systems are constantly being developed
24 and refined. We're really trying to use more and more data to
25 steer product development and improve driver training. We have

1 flexible hardware and software solutions because we generate
2 global systems, and we want to have one system and then have the
3 market dictate modifications to it which will decrease time and
4 effort, enable EOMs to easily install these systems and bottom
5 line, reduce cost and reduce crashes. Thank you very much.

6 MS. MORRISON: Thank you, Mr. Korn.

7 Mr. Newell, I believe you also have a presentation for
8 us.

9 MR. NEWELL: Thank you, Jennifer, and good afternoon,
10 everyone. I'm actually vice president of safety and training for
11 Maverick Transportation. We operate about 1200 tractors, 1700
12 trailers. Most of the trailers are flat or open air trailers. We
13 do have 100 temperature controlled trailers. We also run a bulk
14 pneumatic outfit that operates about 18 tractors with 45 drivers
15 and approximately 25 trailers that run 24 hours a day in a slip
16 seat operation. We have a machinery division, and we're also one
17 of the largest flat glass transporters in the United States.

18 The technologies and the timeline that we started the
19 collision warning system, the passive system, we were fully
20 implemented in '04. We made the decision in late '02, started in
21 '03. We did retrofit our tractors with this. We were fully
22 implemented at the end of '04.

23 Some of the positives about this product, and it's
24 already been mentioned which one it was, we really liked that the
25 accident reconstruction piece because it basically told me the

1 story of what actually took place. In my opinion, I think all
2 systems need to have this.

3 Lane departure warning, we were fully implemented in
4 '04. We did go back and retro. The interesting thing, and when I
5 show you the numbers of what our fleet has done with this, I
6 stopped putting the lane departure warning on in '08, and I
7 basically did this because we changed a model number, change the
8 tractor model and there were some differences of whether or not I
9 could take it off the older equipment and move it to the newer
10 equipment. So I basically stopped. I'm running a test currently,
11 waiting on the OEM to validate the product, and if the validation
12 comes back through, I'm more than likely going to go back to the
13 lane departure. So everything that we have that is '08 and newer,
14 does not have lane departure on it with the exception of five test
15 units that I have running.

16 Roll stability control on tractors, all units that we
17 own today have roll stability control. I'll call it roll
18 stability control on our trailers, too. We started outfitting our
19 trailers in '07. All trailers that we have from '07 and newer
20 with the exception of the flatbeds, we started in 2011, putting
21 the ES system on the flatbeds in and of themselves.

22 The collision warning system, the active system, which
23 is the product that I chose to go with, back in '08, all our
24 units, '09 and current, have the collision mitigation and the
25 OnGuard product on it. Our next truck order will be rolling in

1 throughout the next 4 to 5 months, and at the end of this year,
2 I'll have about 90 percent of our fleet will have the OnGuard or
3 the active collision warning system on it.

4 With this being said, I run the collision mitigation
5 always on. I do not have it just set up on cruise control. It is
6 on all the time, 100 percent of the time.

7 Driver acceptance, Jennifer asked me to speak a little
8 bit about driver acceptance. The passive collision warning
9 system, which was just the warnings, the beeping in the truck, we
10 were a very early adopter of this product, probably one of the
11 first fleets in the United States that had it. There was a lot of
12 grumbling when I first put it on. A lot of that grumbling came
13 from drivers that didn't want to listen to the beeping and all
14 that.

15 The one thing I will tell you is we had a drivers'
16 meeting in '04, and one of our drivers stood up, one of our very
17 vocal drivers stood up and talked about how this had actually
18 saved him. Once that story hit the airways, as far as throughout
19 our company, the grumbling all stopped.

20 After the success stories of the collision warning, from
21 the very beginning, the rest of the stuff was pretty much a no
22 brainer. The lane departure warnings, it's non-intrusive. So
23 there was absolutely no issues with it. The roll stability
24 control, they do not know it's there until it's needed. So they
25 have no idea that it's on the truck until it's actually needed.

1 Once it's needed or they get into a situation, they understand what
2 it does although we do the training upfront on what it's going to
3 do. The active collision warning systems, the drivers really like
4 it. We promote a safe truck to their families and on our website.
5 The technology helps them feel safe. They know they're in one of
6 the safest trucks on the road.

7 The one thing I will tell is when I test, and I do a lot
8 of testing, when I test, I take a group of very vocal drivers and
9 I'll let them test it for me. Two of our million mile safe
10 drivers that's on our Million Mile Wall of Fame, one of them came
11 to me and said if you spend another dime on these trucks, you need
12 to put this on all our trucks, and he was referring to the lane
13 departure warning systems. Another driver said, another one of
14 our million milers said, I didn't realize that I would drift
15 somewhat, and it's helped me a lot.

16 This is what our DOT reportable per million miles would
17 look like. As you can tell, in '04 is when we started putting it
18 on. You can see the decrease down through the numbers from there.
19 I also put one together on the rear ends and the rollovers. This
20 one shows 2011 on there. That is the first quarter of 2011. You
21 can see what the rear ends have done since we first put it on. I
22 will tell you in '04 when we first put the passive system on, I
23 had an up tick, but the actual severity of those incidents dropped
24 significantly. Unintentional lane departures, and you heard me
25 speak and say that I stopped putting this on in '08, and you can

1 see that it started to go back up in '08 which is the main reason
2 why we're looking at putting it back on once this validation is
3 done. And that's all I had. Thank you.

4 MS. MORRISON: Thank you, Mr. Newell.

5 Mr. Beuse from NHTSA, I believe you have an opening
6 statement for us.

7 MR. BEUSE: I do, yes. Hopefully quick. Good
8 afternoon, Chairman Sumwalt, Technical Panel members and other
9 distinguished parties to this public forum on truck and bus
10 safety.

11 As the Chairman noted in his opening remarks, and as
12 Mr. Korn just noted, I don't think it can be understated enough
13 over the past decade, the tremendous progress we've made in
14 bringing the numbers down. While the numbers could be debated
15 about how that happened, whether it was drivers, improvements in
16 the vehicle technology, roadside enforcement, what have you, I
17 think it's pretty astonishing when you look at a 44 percent drop
18 in fatalities and a 48 percent drop in injuries is pretty
19 incredible.

20 However, we still have work to do as we all know.
21 Nearly three-quarters of the fatalities in 2009 were occupants who
22 were not in a heavy vehicle. Similarly, while larger trucks are
23 involved in crashes at about half of the frequency of passenger
24 cars, the fatality involvement rate for heavy vehicles is almost
25 double that.

1 That is to say, we need to keep working keeping large
2 trucks and buses from being involved in crashes with other
3 vehicles.

4 To accomplish this, over the past decade, part of our
5 regulatory efforts have been proposing and finalizing two major
6 rules. The first one was already mentioned. That's our
7 requirement for antilock brakes on trucks, truck tractors, buses
8 and trailers. While it's true that all new vehicles produced
9 since 1999 must be equipped with this technology, you probably
10 wouldn't realize that we still don't have 100 percent saturation
11 out there in the fleet.

12 In addition, I'm constantly looking at this report from
13 CVSA, and I still see too many vehicles out there with ABS not
14 functioning.

15 Despite these two observations, we can already see the
16 benefits of this technology. For example, recent analysis by the
17 agency indicated that truck tractor jack knife crashes which are
18 particularly deadly, have almost been eliminated.

19 The second regulation we are focusing on is improved
20 stopping distance requirements for truck tractors. This rule will
21 begin being phased in just in a few short months in August. Our
22 analysis of the crash data show that we could mitigate or reduce
23 many truck tractor crashes into the rear ends of vehicles just by
24 improving the foundation braking capabilities of the vehicle. We
25 believe that once all truck tractors meet these improved

1 requirements, we predict that we will save just over 200 lives a
2 year.

3 These two rulemakings serve as the foundation for the
4 advanced technologies that we just heard Mr. Conklin and Mr. Korn
5 discuss.

6 Next I'm going to quickly cover the current regulatory
7 initiatives that NHTSA has underway regarding tires, stability
8 control and vehicle speed limiters for commercial vehicles.

9 During the mid 2000s, NHTSA started developing the
10 framework for overhauling the standard for the tires used on truck
11 tractors and motor coaches. We were concerned that our standard
12 was not addressing certain issues, and it was just simply
13 outdated. NHTSA began testing a wide variety of tires to develop
14 new performance requirements and pass/fail criteria that were more
15 representative of tires currently in use and last fall, we
16 proposed a complete overhaul of the standard.

17 In addition to other requirements, we focused our
18 proposal on enhancements to our endurance tests to improve a
19 tire's resistance to under inflation and a new high speed test to
20 better reflect current operating speeds of the tires. As you can
21 imagine, when you don't overhaul the standard for 30 years, you
22 get a lot of comments, and so we have received a lot of comments
23 to our proposal, and we're currently developing a test matrix to
24 respond to those comments. We expect to complete the testing
25 later this year and we will begin development of our final rule in

1 2012.

2 Mr. Conklin and Mr. Korn gave an excellent summary of
3 the current technical generation of stability control systems
4 being developed and how they worked to mitigate heavy vehicle loss
5 of control and rollover crashes from occurring. As we all know,
6 these crashes are a major cause of fatalities, injuries and
7 property damage and result in road closures that can last for
8 hours resulting in millions of dollars of loss productivity and
9 excess energy consumption each year.

10 Over the past 3 years, NHTSA has accelerated its efforts
11 into this area, and we've had a substantial effort underway to
12 characterize these stability control systems, both in terms of
13 safety benefits as well as performance criteria, so that we could
14 develop tests that could determine if a vehicle has electronic
15 stability control, roll stability control or no system at all.

16 Based on the results of our analysis, we believe that
17 electronic stability control, that is a system that has both roll
18 control and yaw control, is the most effective stability control
19 technology available for truck tractors and motor coaches.

20 We have begun drafting our proposal and we expect to
21 publish it later this year. With regards to other commercial
22 vehicles, the systems have yet to be developed for most
23 applications, and we are evaluating them as soon as they become
24 available, but in the interim, we have work underway to
25 characterize the safety crash problem of these vehicles to

1 determine their effectiveness for stability control technologies.

2 Early this year, NHTSA granted two separate petitions
3 regarding the limiting the top speed of truck tractors. We
4 granted these petitions because our preliminary benefits analysis
5 indicated that there were crashes that could be mitigated if truck
6 tractors were speed limited to no more than 68 miles an hour.
7 While the technology is pretty straightforward, as all truck
8 tractors already have it, there are a number of complicated
9 analyses that we must undertake as part of the rulemaking process
10 to develop a proposal. We expect to publish our proposal in 2012.

11 Looking forward, NHTSA has a number of research projects
12 underway that will evaluate some of the more advanced
13 technologies. Two in particular that I'd like to highlight
14 includes those that will automatically apply the brakes if a crash
15 is going to occur, and those that will allow vehicles to
16 communicate with each other.

17 While NHTSA continues to study the efficacy of all types
18 of collision warning systems, including some of those you just
19 heard about, we are also looking at blind spot monitoring. We
20 have expanded our work now to include four occlusion warning
21 systems that are integrated with the vehicle braking system. As
22 we've already heard, this sort of integration allows manufacturers
23 to use information from forward looking radar sensors and
24 automatically the brakes when they see that a crash is about to
25 occur.

1 In addition to evaluating the safety benefits, our job
2 is to evaluate these systems to determine performance
3 characteristics. We are encouraged by what we see, but we want to
4 make sure that we have thoroughly evaluated any technology that's
5 going to take active control of the vehicle.

6 We are on schedule to complete these different analyses
7 and we expect to reach an agency decision on next steps in 2013.

8 We are soon approaching the day when vehicles will
9 actually be able to communicate with each other and provide
10 information to the driver in real time. NHTSA, along with several
11 other operating modes within the Department of Transportation, as
12 well as industry partners, are working to develop and evaluate the
13 safety scenarios, the effectiveness estimates and performance
14 tests for vehicles on vehicle interoperability. We will use this
15 information to develop performance levels and deployment
16 strategies. As you can imagine, this will represent an incredible
17 leap forward in terms of vehicle sensing and provide real time
18 information to the driver. We are very excited about the
19 potential of what impact this could have on safety once fully
20 deployed.

21 While the program spans both passenger vehicles and
22 commercial vehicles, obviously there are unique considerations
23 that we as a Department have to consider, and for that, the
24 commercial vehicle time frame is a little bit longer, and we plan
25 to make a decision in 2014.

1 In closing, I want to thank the NTSB for organizing this
2 important forum that brought together basically the entire
3 industry, safety groups, fleets, government regulators and the
4 public to discuss truck and bus safety issues. There is truly a
5 lot of knowledge in this room, and I appreciate the opportunity
6 that I've had to highlight some of NHTSA's priority action items
7 in this area.

8 MS. MORRISON: Thank you, Mr. Beuse.

9 I think we'll start our questions with a few for
10 Mr. Conklin, if that sounds right. Okay.

11 Mr. Conklin, when discussing the technology, you
12 mentioned the terminology of both collision avoidance and
13 collision mitigation. Can you explain to us the difference
14 between those two terms and which the industry prefers?

15 MR. CONKLIN: Yes, Jennifer, I can, and I have some
16 prepared comments on that topic because I understand it was going
17 to come up. To mitigate or mitigation, in this context, is
18 generally how we describe the act of lessening the severity of a
19 crash through pre-crash warnings or actions. In this context,
20 mitigation takes many forms of warnings alerting the driver of
21 potential situations such that he can take appropriate measures to
22 avoid the accident.

23 Interventions where automated systems act to reduce the
24 severity, like applying the brakes, are also a mitigation method.
25 Interventions have limits though, and the driver has more

1 authority to control the vehicle through braking and steering than
2 any of the systems that we've described here today available now
3 or in the near future commercially.

4 Due to the variables in play for each and every traffic
5 situation, the limited authority of these systems and their
6 automated modes, we cannot lead anyone to the conclusion that
7 avoidance without driver action is the performance expectation of
8 these systems. As such, we use the term mitigation. The hope is
9 that mitigation can be taken all the way to the point of avoidance
10 but mitigation nonetheless is the key word that we generally use
11 in the industry in developing these systems.

12 With that, if you'll allow, I'd like to offer Alan an
13 opportunity to comment.

14 MR. KORN: Yes, I agree completely with that statement.
15 I wish I could tell you that we had systems, whether it's ABS,
16 stability control or collision safety, that are going to
17 completely eliminate crashes. I mean, the way we like to think
18 about it, these systems can extend the safety window, but as Rick
19 said earlier, they do not replace good driving techniques, and I
20 think this comment was brought up earlier this morning. The goal
21 is for a collision mitigation system to never activate. That
22 would be the absolute best scenario. It's only there in the rare
23 event that there's an emergency situation, perhaps a driver was
24 distracted. That's when these systems are going to intervene, but
25 as Rick said, we can't today say that we're going to completely

1 eliminate rear end accidents, rollovers, loss of control
2 accidents, et cetera. Thank.

3 MS. MORRISON: Thank you.

4 Another question for Mr. Conklin; and, Mr. Korn, since
5 it's a technology question, feel free to jump in as well.

6 What are some of the challenges that have come up during
7 the development of the technologies such as detection of slow
8 moving and stopped objects, seeing around curves, false warnings,
9 and how have you addressed those challenges?

10 MR. CONKLIN: The development cycle for these systems is
11 long, and the validation requirements are huge because radar
12 doesn't see things like your eyes seem them. It doesn't see
13 things like a camera. It sees reflections in space without any
14 reference to the horizon or those types of things. Identifying
15 objects in their reflected energy is something that took quite a
16 bit of development. As such, we worked very hard to be able to
17 classify elements that we needed to react to, and elements that we
18 needed to disregard.

19 As such, in many of these systems like Vorad that are in
20 their fourth generation, the advent of more and more capable
21 microprocessors have made that job quite a bit easier, and as
22 such, the false warnings, the false objects that may or may not
23 get detected by radar, the intrusion of the side objects that may
24 be running alongside the truck, moving, you know, at highway
25 speeds relative to the radar, have gone very much down. That's

1 not to say that the systems aren't without occasional false
2 warnings on things that it may see, but those things are a
3 continued area of development to eliminate that. Our goal is that
4 the driver does trust the information coming from this system each
5 and every time, that it's not a distraction in any way.

6 MS. MORRISON: Thank you.

7 Do you want to expand on that, Mr. Korn?

8 MR. KORN: Well, I could just add a couple of comments.
9 Again what's very important on these systems is the credibility of
10 the system. If these systems are going to false detect, the
11 driver is not going to have confidence in the warning and
12 potentially won't react to the warning and will then go back to
13 the carrier and ask that these systems be removed. So it's very,
14 very critical that these systems are developed, they go through
15 long development processes to try to minimize it. I wish I could
16 say we can eliminate all false detects. We can't do that, but I
17 think these systems are at a point now where they are very, very
18 credible and thus, when they activate, I believe most drivers have
19 confidence that there's really something going on and they will
20 hopefully try to address the situation, either react to it or
21 potentially learn from that particular activation and then develop
22 a more conservative style of driving.

23 MS. MORRISON: Thank you.

24 My next question is about product availability. Are
25 these systems, both from Bendix and Meritor WABCO, are they

1 available on all commercial vehicles as factory installation
2 options?

3 MR. CONKLIN: I think between myself and Alan's products
4 somewhat overlapping in this area, that they are available as
5 factor installed options on all major makes of highway trucks,
6 tractors and in a number of different motor coach brands.

7 MS. MORRISON: Great. Thank you.

8 Mr. Lack, if you have additional questions.

9 MR. LACK: These questions are directed at Mr. Korn.
10 What are some of the problems with detecting stopped
11 objects with radar systems? And how have they evolved over the
12 years?

13 MR. KORN: Well, with our current OnGuard product, we
14 will not react to a stopped object where the system has not seen
15 velocity. So, in other words, if it's a vehicle parked in the
16 lane and that vehicle has not moved, when the host vehicle with
17 our technology comes upon that parked vehicle, we will not react.
18 We will not warn. We will not intervene, and really we've adopted
19 that approach to do everything we can to eliminate false detects.
20 We realize that's somewhat of a limitation of the product today,
21 and it will be addressed in Next Generation products.

22 With our Next Generation product, it's a more
23 intelligent radar sensor. It can more accurately differentiate a
24 threatening object from a non-threatening object, and the Next
25 Generation system will not only warn but will probably make some

1 degree of a brake application as well.

2 But the whole purpose with our current product today was
3 we wanted to try to minimize false detects. On that IVBSS study,
4 I think as you know, there were many false detects with forward
5 collision warning, and so that was our philosophy, to try to
6 minimize that.

7 MR. LACK: Will the Next Generation system use cameras
8 in conjunction with the radar or --

9 MR. KORN: Well, where we're heading right now, the
10 optimum system will utilize potentially some type of vision sensor
11 like a radar sensor and vision. Where radar is strong, vision is
12 weak and vice versa. But where we're going today, and a lot of it
13 is being driven by what's happening in Europe.

14 In Europe, they are going to mandate collision avoidance
15 systems in 2013, and right now what's going to happen, and they're
16 also going to mandate lane departure warning systems, so there
17 will be a camera on the vehicle and there will probably be a radar
18 sensor on the vehicle, but our Next Generation system will not
19 fuse that information together. It will strictly rely on the data
20 from the radar sensor.

21 However, in the future, after 2013, we're going to look
22 for ways to utilize the data coming off that camera and have a
23 higher performing system for our crash avoidance.

24 MR. LACK: Thank you. Is your Safety Direct system
25 currently available on the market?

1 MR. KORN: Right now it's installed in a piloting phase
2 at a number of fleets. We're getting feedback, will make some
3 refinements and then it will be available.

4 MR. LACK: Have you discovered any challenges during the
5 fleet testing of Safety Direct?

6 MR. KORN: Well, initially whenever you put another
7 control system on a vehicle, there's a fair number of logistics
8 because systems have to communicate with one another. So you have
9 the control systems on the vehicle. They're going to have to
10 communicate with the data logger. The data logger is going to
11 then have to communicate with the telematic device. So we had to
12 work out a couple of logistical issues in that regard, but now I
13 believe things are functioning quite well, and we're looking
14 forward to good sales on that product.

15 MR. LACK: Are you capable of streaming data in real
16 time for that or does it stream all the data in real time?

17 MR. KORN: Yes. Well, it does not stream all the data
18 in real time. It is more or less two functionalities that can
19 come about from this product. The first is more or less a
20 critical warning. And again, this is very much dependent upon how
21 the fleets want to receive the data. So if a fleet wants to
22 receive information say whenever there's a significant rollover
23 event, that can automatically be communicated immediately after
24 the event occurs, and someone can get an e-mail from the system,
25 indicating a significant rollover event occurred, and if the

1 carrier wants to contact the driver, they can go ahead and do
2 that. So that's one functionality of the system.

3 The other is more or less a longer term monitoring of
4 the driver. So there we're not trying to capture information
5 immediately, but we're trying to see trends in the data and then
6 analyze that data so that we can change driving behavior.

7 MR. LACK: Thank you. That's all the questions I have.

8 Ms. Morrison.

9 MS. MORRISON: Yes, I have a few questions for
10 Mr. Newell.

11 We appreciate the perspective of a fleet that's using
12 these technologies and thank you for sharing yours. Of all the
13 technologies that you've used, you mentioned lane departure
14 warnings, system collision warnings, systems and stability
15 control. Which do you feel has been the most beneficial to
16 improve safety and accident reduction?

17 MR. NEWELL: I think the collision warning system, but I
18 want to clarify that it needs to be an active system. It doesn't
19 need to be just passive. A good example, I lived across the road
20 from a gun club and people would come out to the house and after a
21 while they'd say, how do you stand that shooting all the time, and
22 I'd say what shooting? Because I got used to it, and I think what
23 we saw with the technology is when we first put it on, it had a
24 big impact, and then as the drivers kept with it, it got a little
25 bit worse and a little bit worse, and I was on these guys about we

1 need something active. We've got to do something different with
2 this thing.

3 So it stops rear end accidents. It's not going to stop
4 them all but it's going to stop a majority of them, and those are
5 the ones where people get hurt, and, I mean, a single vehicle
6 rollover driver has a good chance of getting hurt, but as far as
7 the motoring public, hurting someone else, the rear ends to me are
8 the ones that we need to stop.

9 MS. MORRISON: Great. In addition to that, do you feel
10 that there's been a positive return on investment for implementing
11 all these technologies?

12 MR. NEWELL: Absolutely, but I want to make it very
13 clear that you can't just put these things on the trucks and walk
14 away from them and expect them to fix all your problems because
15 they're not going to. I think there's got to be some education
16 that goes along with them. I think you've got to constantly
17 remind the drivers and we do. We don't call it remedial training.
18 We call it outsource training. We bring in drivers and all our
19 new employees that come to us must go through an orientation about
20 all the technology that we're running, and they actually sit down
21 and see what it's going to do and how it's going to react and we
22 actually road test them in a truck that has it all, show them what
23 it'll do and things like that. So you can't just put it on and
24 forget about it. You've got to be proactive with it.

25 MS. MORRISON: And in addition to the technologies that

1 you've already implemented, the ones that we just mentioned, are
2 you also using any fleet monitoring technologies such as the
3 Safety Direct system that we just heard about?

4 MR. NEWELL: I have five trucks running the Safety
5 Direct product. I have 100 percent of the trucks running fleet
6 risk predictor. I feed the data into a modeling product, and I
7 try to be proactive which drivers -- I use the example. You have
8 a driver that's been with you 5 years. He makes a right-hand turn
9 and hooks a pole. He didn't forget how to make a right-hand turn.
10 Trust me. There's something else that's going on in this driver's
11 life and to me it's about behavior. It's not about skills. I
12 think that skills are a problem. I think that you might have 10
13 percent of your problems could be skill related, but I think the
14 rest of it is behavior related, and I tend to show some drivers a
15 little more love than I do others, and I'll ask the simple
16 question, what does a good driver look like? And to me that was
17 the most eye-opening thing I've ever seen. I'm an ex-driver
18 myself, and a good driver, you'll be surprised which ones are the
19 best and which ones are not, and to me this product has allowed me
20 to focus on the 10 percent that I need to focus on no matter if
21 they've been with us 15 years or 15 days. I mean, that was the
22 key to it.

23 MS. MORRISON: Thank you. And I think that we'll
24 probably have some additional questions about that data and your
25 experience in using it.

1 For now, Mr. Lack, do you have some additional
2 questions?

3 MR. LACK: Yeah. My questions are for Mr. Beuse.

4 I wanted to clarify the current status of the NPRM on
5 stability control for heavy trucks.

6 MR. BEUSE: Sure. We are finishing up our proposal.
7 There are a few, call it housekeeping things that we need to do
8 before it enters the circulation process, but given the timing of
9 how all that shakes out, it will be published by the end of the
10 year. That's what we think we can meet.

11 MR. LACK: Has NHTSA calculated an effectiveness rate
12 for stability controls on heavy trucks?

13 MR. BEUSE: We have. Just last -- well, I guess in
14 March, it wasn't last month, in March we put out a research note
15 that I'd be happy to put into the docket because it has a lot of
16 detail in it, but essentially we took some information from a
17 bunch of different sources and came up with an effective estimate
18 for ESC, that's 28 percent to 36 percent effective, and that's
19 combining both loss of control and rollover into one number.

20 MR. LACK: How did your methods in evaluating the
21 effectiveness of this system differ from when you evaluated
22 stability control on automobiles?

23 MR. BEUSE: So for light vehicles, the technology had
24 evolved quite a long ways by the time we started to pursue
25 rulemaking in that area, and so we had the advantage in some ways

1 of having a lot of crash data where we could compare vehicles, the
2 same make and model that had the technology against basically a
3 peer vehicle that did not have the technology and have, you know,
4 a real work effectiveness estimate for what impact it would have
5 on crashes.

6 So if you look at our analysis for that rule, it's
7 several, you know, books. It's big, and the reason why it's big
8 is because when you have that much information, you can break down
9 very specifically specific crash types, beyond just having an
10 overall number of effectiveness. Specific crash types. You can
11 even get into sort of class of vehicles. Separate passenger cars
12 versus light trucks and vans which is what we did.

13 With this particular rule, we didn't have that
14 advantage. As these guys have said, the technology was really
15 only widely available in 2004-5 era time frame and we felt that we
16 didn't want to wait as long as we did for light vehicles. So we
17 really tried to come up with new methods. So what we did in this
18 case was we contracted with the university of Michigan who did
19 essentially a paper review of, I heard the comment yesterday, of
20 the crappy LTCCS study, and what we used that information for was
21 to look at how these crashes were happening, and so when we looked
22 at when the crashes were happening, we could sort of make a
23 judgment of whether or not stability control would be effective in
24 that crash because, you know, you don't have the actual real world
25 data to do that.

1 Then what we did was we used computer simulation and
2 sort of re-engineered those crashes and ran simulations to see if
3 the technology would indeed work. That was one piece of
4 information.

5 The other piece of information was our test track work.
6 In that work, we really sort of pushed these systems to the limits
7 or in some sense, overdrive the vehicles to see what is the limit
8 of the technology, and in doing that, you can also come up with
9 sort of a measure of effectiveness because you measure that
10 vehicle's performance, put the technology in an off state and then
11 run that same test and then you put it in an on state and then see
12 what happens, what the difference is.

13 And then the third piece of all that was, there was some
14 computer simulation that went on, and then a fourth piece of that
15 was some actual fleet information from folks like Maverick where
16 we looked at what the experience was and those experienced. And
17 so we combined all that together, and you can imagine that's why
18 it took so long, to come up with these effectiveness estimates,
19 but it is a lot quicker than waiting for years of crash data.

20 MR. LACK: It is a new methodology though. It hasn't
21 been used in the past, correct?

22 MR. BEUSE: I would say it's not so much new as opposed
23 to what I would say is a modification of a methodology. In the
24 past, and it's a has used, sort of laboratory experiments that
25 come up with effectiveness estimates, but in the area of heavy

1 vehicles, we hadn't done that before.

2 MR. LACK: I have no further questions.

3 MS. MORRISON: I think that concludes the Technical
4 Panel questions at this time. We'd like to pass it to the
5 parties.

6 CHAIRMAN SUMWALT: Great. Thank you so much and,
7 advocacy, I believe you're up first this time.

8 MR. JANSY: Thank you, Mr. Chairman.

9 This is a question for Mr. Korn and Mr. Conklin from
10 Matt Brumbelow of IIHS.

11 Have regulations led to differences in the brake systems
12 for combination vehicles operating in the U.S. compared to those
13 in Europe, and if so, which systems do you think are the safest?

14 MR. CONKLIN: I'll start with that. The regulations in
15 Europe tend to include a fade resistance requirement which has
16 driven the adoption of air disc brakes in Europe which are very
17 effective, and they provide the same level of stopping power as
18 brakes in North America, drum brakes in North America. However,
19 they do resist repeated stopping effort. They have more
20 capability in the repeated stops. Comparatively, however, the
21 performance is very similar truck for truck when you compare
22 parallel vehicles.

23 MR. KORN: I would say regarding regulations, as I
24 mentioned earlier, I believe in Europe they're a little ahead of
25 us regarding regulatory initiatives on heavy trucks. They're

1 going to regulate stability control beginning this year on new
2 vehicles. They're going to regulate collision mitigations systems
3 and lane departure systems in 2013. But I think again we have a
4 very, very safe brake system. They utilize in Europe what's
5 called EBS. So instead of an pneumatic signal between the brake
6 pedal and some of the valving, they utilize an electrical wire but
7 again I think what we have found is it was talk there would be a
8 big convergence in the U.S. towards that, but we're not seeing
9 that today. I think what we have is a very, very good platform
10 with FMVSS 121 to build from and that's the direction we're going
11 in now.

12 MR. CONKLIN: Because we were able to successfully
13 integrate the braking functions for these collision mitigation
14 systems into ABS, the base system that we use today in North
15 America, the push for EBS has pretty much stopped.

16 MR. JANSY: This is my question. Are the systems, the
17 technologies that you're talking about, especially stability
18 control and roll stability control, also adaptable for motor
19 coaches?

20 MR. CONKLIN: Absolutely. They're available today on a
21 number of different motorcoach manufacturers today both for the
22 collision mitigation systems and stability control.

23 MR. JANSY: This question is from me for Mr. Newell.
24 Mr. Korn mentioned they can receive trends in driver behavior from
25 the data that these technologies produce. Are you using the data

1 and activation patterns from the technology systems to determine
2 if drivers have particular problems like aggressive driving or
3 chronically fatigued?

4 MR. NEWELL: Yes, we feed the predictive modeling with
5 it. I have what's called CER, critical event reports, that feeds
6 the data and gives us a picture. I want to clarify though, it
7 doesn't say you've got a bad driver. It says you need to work on
8 this with this guy or whatever. I heard the earlier panel talk
9 about punitive and I don't use it as a big stick. I use it to
10 work with them, educate them. What it has caused us to do is
11 change some training things. You don't need to put everybody
12 through the same exact training, if you've got a guy that doesn't
13 have a problem in that area. You change the training to match
14 what he needs help in. So that's what it's allowed me to do.
15 It's allowed me to modify the training program and keep it human
16 based, instead of behavior based, instead of a skill-based
17 typeset.

18 MR. JANSY: So you can use it for behavior modification
19 but do you know what the behavior problem is from the data or
20 because you know the driver?

21 MR. NEWELL: From the CER, you know the data. You
22 actually know what it is. I mean it's going to tell you exactly
23 what it is, whether it's hard brakes or whatever. Keep in mind, I
24 feed all of this into a data mine that has everything that we have
25 in it. So, yes, you can. You can tell the individual behaviors.

1 MR. JANSY: This is also for you, Mr. Newell, from Matt
2 Brumbelow. You stated that about 10 percent of crashes are
3 probably skill related which suggest that driver's skills training
4 may have limited effect on reducing crashes further. What do you
5 feel should be done to address the other 90 percent of crashes?

6 MR. NEWELL: Well, again, I'll state again I think it's
7 behaviors. I mean, you know, call home and being an ex-driver,
8 you call home and there's a problem at the house. What's on your
9 mind when you're out there driving? It's not your skill problem.
10 It's what's going on at the house is what we're thinking about.
11 So in my opinion, it's about changing behaviors.

12 I've never felt safety was a priority. Safety is a
13 value, and that's right here. It's not a priority. Priorities
14 change, and I think that behaviors can change, too, but we have
15 outside influences that influence us as a driver. You call home
16 and the dishwasher's broke. You call home and a kid gets kicked
17 out of school for something. I mean what's going through this
18 driver's mind? It's not the skill set. You can teach them how to
19 do this. You can teach them how to drive. You can teach how to
20 hold the steering wheel, but a real trucker's got a heart and he's
21 got something up here, and I think with that combination, I think
22 that we've got to work on behaviors.

23 MR. JANSY: Thank you. This question is for Mr. Beuse
24 from me.

25 Can you discuss the action items that NHTSA's

1 responsible for under the DOT Motorcoach Safety Action Plan? And
2 how long will it take to implement those safety action items?

3 MR. BEUSE: You want the entire list or just the crash
4 avoidance ones?

5 MR. JANSY: Crash avoidance.

6 MR. BEUSE: Okay. So under the crash avoidance one we
7 have, there were tires which I briefly talked about, and that one,
8 we're reviewing the comments now and conducting further testing
9 and will develop the proposal in 2012. The other one was
10 stability control for motor coaches which we're going to issue a
11 proposal. That's part of the truck tractor proposal. Those two
12 vehicles are going together, and we're going to issue that by the
13 end of the year. And then the third was to expand out collision
14 warning research into motor coaches which we have done.

15 MR. JANSY: Okay. Thank you. That's all the questions
16 we have.

17 CHAIRMAN SUMWALT: Okay. Thanks.

18 Now to the union and drivers associations.

19 MR. BYRD: I'm LaMont Byrd. I'm the safety and health
20 director at the International Brotherhood of Teamster. My first
21 question is from OOIDA to Mr. Conklin and Mr. Korn. Does lane
22 departure technology work when roads are snow covered or when it's
23 raining?

24 MR. KORN: Yes, with our system you have to at least see
25 some lane markings. So in the snow, if the lane markings are

1 completely covered, it's more of a challenge. Now there are other
2 things. If you're in the snow and you can see tire tracks,
3 there's certain features within the software that can make some
4 assumptions, but if you're on a road say that has absolutely no
5 lane markings, then obviously you can't tell if you're drifting
6 out of the lane. Regarding rain, there shouldn't be any issue
7 whatsoever because the lane markings are very visible.

8 MR. CONKLIN: I think Alan's covered it.

9 MR. BYRD: Okay. To Mr. Beuse, this question is from
10 Women in Trucking.

11 The more technology you require, the more you add to the
12 cost of the truck or the vehicle. Does NHTSA every work with
13 Legislature to provide tax credits for these initiatives?

14 MR. BEUSE: No. No, we don't do that. There actually I
15 think was a bill yesterday I think that got introduced that does
16 that but the federal government doesn't get involved in lobbying
17 for tax credits.

18 MR. BYRD: My next question is from UTU to Mr. Newell.
19 S453 Motorcoach Enhanced Safety Act requires improvements in
20 commercial driver training. What are some recommendations that
21 you feel are vital in the training of these drivers?

22 MR. NEWELL: Well, obviously I think everybody's skill
23 level needs to be X, Y, Z, whatever that is but to have a CDL, I
24 think pretty much covers that. I go right back to the behavior-
25 based stuff. I think the behavior based to me is the key to this

1 thing, and I'm very passionate about that, and I do believe it's
2 behavior based. So I would focus on that area.

3 MR. BYRD: Any my next question is my question.

4 Mr. Newell, you already addressed a question I had about
5 driver training and driver acceptance of the technologies. I do
6 have one other question on retrofit equipment. Are the OEMs
7 honoring their warranties?

8 MR. NEWELL: To be honest with you, I can't answer that.
9 I don't handle that domain side of it. I work with maintenance on
10 it but I don't -- I've never had a problem getting anything taken
11 care of, if that answers the question.

12 MR. BYRD: Okay.

13 MR. NEWELL: But how that works through maintenance, I
14 have no idea.

15 MR. BYRD: Okay. Anyone else on the panel?

16 MR. KORN: I mean, I'm not sure exactly where you're
17 coming from on that but I mean we see warranty data on our
18 systems. So in my opinion, the OEMs are certainly honoring the
19 warranty on the vehicles as well as the suppliers as well. So I
20 think it's pretty typical here, 3 years, 300,000 miles. I don't
21 believe there's any issue there to my knowledge.

22 MR. CONKLIN: And the other thing is that these systems
23 as they're being introduced in the near term and are being used by
24 early adopters, as manufacturers of these systems, we're taking a
25 little bit extra care and feeding of these systems to monitor both

1 warranty as well as driver feedback and performance. So I think
2 if there was ever a time that the users are well cared for, it
3 would be now.

4 MR. BYRD: Okay. I have my next question to Mr. Conklin
5 and Mr. Korn.

6 Have you done studies of the effectiveness with a
7 control group of drivers, some using the technology and some not
8 using the technology?

9 MR. CONKLIN: Through some of our fleet partners we have
10 data that is as you described, with control group versus target
11 group. Unfortunately I can't share the meat of that due to the
12 confidentiality. The fleets tend to be fairly protective of their
13 internal operational data for reasons they deem it as being key to
14 their operation, but it has been done and continues to support in
15 many cases. The only example I'd give is that fleets that are
16 early adopters tend to continue to purchase the technology
17 throughout because they see the ROI.

18 MR. CONKLIN: I think Dean presented some data, and Matt
19 mentioned a study by the University of Michigan. There they did a
20 study for the effectiveness of stability control. They did one on
21 tractors and one on straight trucks. On the tractor one, they did
22 include fleet data. They did not identify the fleets, but there
23 they were able to look at vehicles equipped with the technology
24 and not equipped with the technology and came up with some
25 conclusions there.

1 MR. BYRD: Okay. My next question is from Women in
2 Trucking, and it's for Mr. Newell.

3 Some studies have found that the more safety equipment
4 on a vehicle, in this case cars, the more the driver will engage
5 in riskier behavior. Do you anticipate this and address it in
6 your driver education efforts?

7 MR. NEWELL: Yes, we do. Very much so. We spend
8 probably 2 hours. Our orientation, typical orientation for
9 inexperienced guys, 5 days. We go 5 days to 10 weeks depending on
10 the level of experience they have when they come to us, and that
11 is one of the mandatory classes that is covered, about data
12 overload, distraction, cell phones, things like that. It's all in
13 one class. Good question.

14 MR. BYRD: Okay. My next question is from OOIDA for
15 Mr. Conklin and Mr. Korn.

16 How does roll stability and automatic braking working
17 when a vehicle is on ice and patchy snow? And, how does it work
18 on dry pavement?

19 MR. CONKLIN: Well, the underlying system, the ABS
20 system is active in all of those modes. When we're applying the
21 automatic brake application, it's still very important to
22 maintain, you know, the wheels rolling and the stability of the
23 vehicle and so we have those things kind of underneath in a
24 layered type of arrangement that Alan said. So in all cases, the
25 priority is to maintain control of the vehicle in a safe manner.

1 We'll apply all the available braking up to the commanded
2 requirement of the automated system, the intervention at hand. In
3 some cases, you mentioned, you know, if we're talking glare ice,
4 the amount of traction may be limited and as such, we're operating
5 in the ABS and stability mode. We are still applying the amount
6 of intervention as best we can given those limits of physics
7 available to us and the roadway and the tires.

8 MR. KORN: Just one comment. I believe -- did your
9 question say roll stability control or --

10 MR. BYRD: Yes, roll stability and automatic braking.

11 MR. KORN: Okay. Because again just to differentiate,
12 you know, right now there are two types of stability control
13 products available. One is called say roll stability control. It
14 primarily addresses rollovers. That system will have little to no
15 effect on glare ice because you can't roll a vehicle on glare ice
16 because there's no friction, there's no lateral force on the
17 tires. So that system will not be very effective on glare ice.

18 As Rick was describing, that would be a full stability
19 control system, ESP, ESC, and that's where the yaw control,
20 directional control would come into play.

21 MR. BYRD: Okay. My next question is from UTU to
22 Mr. Conklin.

23 You talked about the following distance alerts. Does
24 the system only engage when the vehicle is traveling too close or
25 what happens when another vehicle cuts too close in front of a

1 truck or bus?

2 MR. CONKLIN: That response requires about an hour of
3 dedicated time because every situation is a little bit different,
4 but in a nutshell, when the vehicle is following too close, the
5 driver would get following distance alerts, if he has crept up on
6 say a vehicle in front of him regardless of whether he's in cruise
7 control or not. If a vehicle cuts in front of him, and then
8 starts to decelerate, the driver is going to get a following
9 distance alerts. A vehicle cuts in front and is accelerating away
10 from him, he's likely to get no alerts and no interventions at all
11 such that because that vehicle is essentially behaving in such a
12 way that it's taking itself out of the threat envelope. Does that
13 answer your question?

14 MR. BYRD: Yes. Okay. And my last question is to
15 Mr. Korn and Mr. Conklin.

16 When antilock brake systems first came out for cars,
17 accidents went up. Experts said drivers simply overdrove the
18 systems. If a driver gets used to this technology, won't they be
19 tempted or become accustomed to driving faster?

20 MR. KORN: Yes, it's very similar to the previous
21 question. Will drivers driver more aggressively with these safety
22 technologies? Clearly if they do, these safety technologies are
23 not going to have the desired safety effect. They'll be neutral
24 or even negative. That's not why they're there.

25 A heavy truck I believe is completely different than a

1 car, especially a tractor trailer. It's articulated. I don't
2 believe drivers are going to do that. I don't think there's any
3 evidence on the heavy truck side that drivers are driving more
4 aggressively because of ABS. I think they realize they're in a
5 vehicle that's completely different than a car, and I don't
6 believe they're going to press the systems to the point where they
7 activate, and as I said earlier, what we want is we don't want
8 these systems to activate. They're there just for emergencies,
9 and we don't want drivers more or less generating situations where
10 they do alert when there are no emergencies.

11 MR. CONKLIN: Like Mr. Newell was talking about earlier,
12 it's behavioral related. Now these systems in all the different
13 versions from either Bendix or from Meritor WABCO, have either
14 counters or reporting structures built into them such that someone
15 like Mr. Newell can go back and see the trend data of drivers over
16 time, to see if that type of behavior is actually starting to
17 occur, and then he can address it through the means that he would
18 address other behavioral issues. So it's not only that these
19 systems don't encourage necessarily the overdriving of them for
20 higher performance or whatever. They also provide feedback to the
21 fleet safety director like Mr. Newell.

22 MR. BYRD: Okay. Thank you for your responses.

23 Mr. Chairman, we're out of time. We have no further
24 questions.

25 CHAIRMAN SUMWALT: Great. Thank you.

1 And the state government table.

2 MS. MORTON: Hello. My name is Karen Morton. I'm with
3 AAMVA. I'm asking questions currently for CVSA. The first
4 question is for Mr. Korn and Mr. Conklin.

5 How important is it to the performance of these systems
6 that the foundation braking system in ABS be in proper working
7 order?

8 MR. KORN: Yes, I normally have a slide that addresses
9 that very issue. It's like the weakest link of a chain link
10 fence. If you don't have foundation brakes that are properly
11 adjusted and properly functioning, none of the systems that we're
12 going to apply, not so much ABS, it might help the ABS because
13 you're not going to be able to lock your wheels up, but on
14 stability control and collision mitigation systems, there you're
15 relying on an active intervention of the foundation brakes, and
16 thus they have to be performing properly to get the type of
17 intervention that control system is looking for. So it's very,
18 very critical.

19 MR. CONKLIN: I think Alan's hit it on the head. The
20 systems can adjust based on what they see from vehicle response
21 once they intervene, but that first intervention is based on
22 knowing that you have a vehicle in good working order and proper
23 adjustment with proper function.

24 MS. MORTON: Okay. The second question is for
25 Mr. Newell, Mr. Korn and Mr. Conklin.

1 How could we get more of these proven safety systems
2 into the market than are currently there today?

3 MR. KORN: You know, I guess there's a couple of ways.
4 One, you know, I think the industry has done a very good job as
5 far as communication. I mean we don't reach everybody but we're
6 reaching a large number of the fleets, between the suppliers, the
7 OEMs and the government agencies. So I think communication is a
8 key.

9 There's also an incentives bill that was just introduced
10 in Congress I believe yesterday, and what that bill does is it
11 provides some degree of excise tax relief for fleets to somewhat
12 experiment with the technology. So again, fleets are very shrewd.
13 They're very good about what they buy, but they are a show me type
14 of industry, and they want to see for themselves that this is
15 going to help their operation prior to them making a huge
16 investment, and I think that bill is going to take some of the
17 cost out of the systems and then they can try the technology
18 themselves, and we believe once they do that, the technologies
19 will sell themselves.

20 As Rick said, there's a large percentage of the fleets
21 that are buying the technologies or re-buying the technologies.

22 MR. CONKLIN: It's also a part of our responsibility as
23 suppliers to continue to drive the cost down as well which is
24 something that I think we can all nod and say we're working on.
25 The first, third, fifth generations of this technology had a

1 certain expense level. As we move forward, one of the key
2 elements is continued cost reduction to make that ROI for the
3 fleet easier.

4 MR. NEWELL: I believe part of it is sharing. I don't
5 mind sharing, you know, with other people in the industry. They
6 call me all the time, and I talk about my experience with it, but
7 as he knows, I'll tell the good with the bad. So if you don't
8 want to know the truth, don't call me, but I promise you, sharing
9 and letting them know exactly what's going on and how it works
10 actually sells a lot of them. So -- but I like some of the tax
11 credit stuff, too.

12 MS. MORTON: All right. Thank you.

13 Dean, this next question is for you. Has your insurance
14 carrier offered you a premium discount due to your investment in
15 the systems?

16 MR. NEWELL: No.

17 MS. MORTON: That was short and sweet.

18 MR. NEWELL: Let me -- how insurance works in the
19 industry is basically you're going to pay for your losses through
20 your premiums or through your losses. We take a pretty high SIR
21 which means that I'm going to pay for my losses one way or the
22 other. So to me they do not do that, but to go along with what
23 Mr. Keppler was asking just a minute ago, I think if they did get
24 involved with this, about some stuff like that, it's not like a
25 good driver discount, get your 10 percent when your kid turns 16.

1 So, I mean we've got to figure this out. But the short, blunt
2 answer is no, there is no premium discount for having any of it.

3 Now I will tell you if you go by somebody, they ask if
4 you're going to put it all on those trucks. So I think it does
5 have some merit in their mind --

6 MS. MORTON: Right.

7 MR. NEWELL: -- what it does do.

8 MS. MORTON: Okay. Now the next question is for
9 everyone on the panel.

10 There is consideration being given to increasing vehicle
11 sizes and weights. Do you believe these systems should be a
12 requirement for vehicles larger and more heavier than 80,000
13 pounds?

14 MR. KORN: I think it's irrelevant for vehicle type or
15 weight. I think these systems are proving themselves in industry
16 regardless of weight and size. And I think as Mr. Beuse was
17 mentioning, his research will point in that direction. So I think
18 moving across a wider range, not just, of course, limiting to
19 anything that may or may not happen, and a variation in vehicle
20 type is pretty important. This technology can save lives in real
21 time.

22 MS. MORTON: Okay.

23 MR. CONKLIN: Yeah, I would concur with that. I mean
24 I'd like to see, I'm a very data driven person. So I would like
25 to see some data, you know, intuitively I think because the

1 systems are effective at 80,000 pounds, they're going to be
2 effective at 97,000 pounds as well, and I'm convinced we can build
3 vehicles at 97,000 pounds that are just as safe as vehicles at
4 80,000 pounds as well. So I think it should be somewhat
5 considered but perhaps there needs to be some data generated to
6 prove or disprove.

7 MR. NEWELL: I'll add a little bit to that. We actually
8 ran a fleet that was a permit fleet that was running pretty heavy.
9 They had the technology on them. There was no difference between
10 those trucks and the trucks they were running regular. So it was
11 on a turnpike application and we actually did run, you know, the
12 data and we ran all the equipment on those trucks. So I saw
13 absolutely no difference between the two.

14 In fact, the heavy trucks were actually a little safer
15 than the other ones were as far as, now it was so minute it was
16 hard to tell, but overall it was just a little bit different.

17 MS. MORTON: Okay.

18 MR. BEUSE: The only thing I would add to that is, I'm
19 not going to debate the policy merits of doing so. There's plenty
20 of other people doing that right now.

21 From a regulatory standpoint, it actually makes it --
22 you have to encompass the vehicles in some sort of envelope, and
23 so it makes test procedure development a little bit more
24 difficult. It makes pass/fail criteria a little bit more
25 difficult, but it's not to say that you would somehow draw a line

1 to say those vehicles are automatically in or out. You would have
2 to do some work to figure that out.

3 MS. MORTON: Okay. The next question is for Mr. Korn
4 and Mr. Conklin.

5 What have been some of the safety benefits of these
6 systems?

7 MR. KORN: The goal of these systems is to reduce
8 crashes. One of the slides I had, I showed the significant
9 reduction, in fatalities and injuries from, 2005 until today.
10 Now, I wish I could confidently say that that reduction was driven
11 by these types of control systems. I really can't say that. I
12 think they play a part as well as many other features, but the
13 goal is to reduce crashes. They don't provide say a comfort.
14 They're strictly there to increase the safety window to make the
15 commercial vehicle a safer operation.

16 MS. MORTON: Okay.

17 MR. CONKLIN: I don't have anything more to add to
18 Alan's comments.

19 MS. MORTON: Okay. Our last question is for Mr. Newell.
20 As more of these systems are being introduced into the market, how
21 does this impact driver training needs?

22 MR. NEWELL: Well, in our particular application, I
23 focus more on the behaviors. We do have what we call new truck
24 training, that we bring them in, if they're getting a new truck,
25 all the technology that's on there, we actually have video. We

1 shoot our own video and do our own production, and we actually
2 show that stuff to them. It does change. You know, it's more or
3 less -- it's changed it in the sense of there's no pen and paper
4 any more. It's more visual, take them out, get them in the truck
5 and show them exactly what it does. Did it make it more
6 difficult? No, it actually made it easier than the pen and paper
7 or standing up and doing the speech all day. So it's actually
8 made it somewhat easier in my opinion, but I'll go right back to
9 the behavior. You've got to do the behavior part with it.

10 MS. MORTON: Right.

11 MR. NEWELL: You can't just put this on and put about
12 it.

13 MS. MORTON: Okay.

14 MR. KORN: If I could just make one comment on that. We
15 had a vehicle driven from an OEM to our facility which had
16 collision mitigation on it, and it was a transfer driver who drove
17 the vehicle, and the driver had no clue, and obviously sometime
18 during the trip, the system is intervening. It's applying the
19 brakes, and the driver was, you know, almost shocked. He had no
20 idea what was actually happening. So I think, you know, as Dean
21 said, it's a very good idea to provide an overview of what these
22 systems do and what they can't do, and again as Rick said in his
23 presentation, the focus still remains on the driver.

24 MS. MORTON: Okay. Thank you. That's all we have.

25 CHAIRMAN SUMWALT: Okay. Great. Thank you very much.

1 And now the industry table.

2 MR. PRESLEY: The first question is from the Truck
3 Manufacturers Association for Mr. Korn and Mr. Conklin.

4 Would you speak to the period during tractor trailer
5 instability when ESC knows enough to start to react and stabilize
6 the vehicle and the point at which the ESC system cannot stabilize
7 it?

8 MR. CONKLIN: Could you repeat the question please?

9 MR. PRESLEY: I will try. Could you speak to the period
10 during tractor trailer instability when ESC knows enough to react
11 and stabilize the vehicle and the point at which the ESC system
12 cannot stabilize it?

13 MR. KORN: If I understand your question correctly, are
14 you saying can the system recognize when it intervenes but yet it
15 can't get the vehicle back to a stable range?

16 MR. PRESLEY: You want to tell him what you mean.

17 MR. BLUBAUGH: Yeah. Since I asked the question, I
18 wanted to hear maybe either one of you or both speak to the aspect
19 where at the point at which a vehicle, the process of becoming
20 unstable, the point at which the system can detect that
21 instability and react, and the point at which the limits of the
22 vehicle, the limits of the braking system, the limits of the
23 system, it can't stop the instability. So in a rollover, for
24 example, the point at which it can detect a rollover and react and
25 correct the situation or the point at which, you know, how big is

1 that window before the rollover, applying the brakes can't stop
2 it.

3 MR. KORN: A couple of things maybe to try to address.
4 If there's a curve on the highway and let's assume the rollover
5 threshold is 35 miles an hour. So above 35 miles an hour, the
6 vehicle is going to roll without stability control. With stability
7 control, when the vehicle gets close to the rollover threshold,
8 the system is going to intervene and will reduce the likelihood of
9 a roll. I can guarantee if you take that turn at 60 miles an
10 hour, if the tires can hold you on the turn, you're going to roll
11 over. Stability control tries to be as reactive as possible, but
12 if you exceed the safety boundaries, if you exceed the physical
13 conditions, there is a limit to how quickly a system can
14 decelerate a heavy truck loaded to 80,000 pounds.

15 And, you know, the system does have an idea when it
16 can't do what it wants to do because on a directional instability,
17 keep in mind, the system knows where the driver wants to point the
18 vehicle, but if you're on say a very icy surface and you make a
19 very, very evasive maneuver, it's possible though the system will
20 intervene when it's supposed to, it might not have enough
21 corrective force to keep the vehicle stable. The system will know
22 that because it knows the vehicle is not following the steering
23 path of the driver, and it will continue to try to intervene, but
24 in some cases it just won't be successful. I don't know if that
25 addressed it.

1 MR. CONKLIN: And in some cases, if I may add to that,
2 in some cases what you've got is a situation where the vehicle or
3 the stability system will intervene before those critical
4 thresholds are reached, as the vehicle knows that it's
5 approaching, in a gradient of the forces, is approaching that
6 threshold, and as a result, even before those critical limits are
7 reached, the intervention has started to take place. The idea
8 there is that by intervening earlier because we know certain
9 things are going to happen based on the input side of the sensing
10 technology, that we can intervene more effectively earlier and
11 heavily to prevent more situations than we otherwise would if we
12 just waited for the later acceleration in Alan's example to build.

13 So there's a number of different control strategies in
14 place. It's unfortunately not a simple answer in the overall
15 maturity of these systems.

16 MR. PRESLEY: Okay. This question is for Mr. Beuse at
17 NHTSA, and the question is from Mr. Littler at American Bus
18 Association.

19 Has NHTSA examined or studied the electronic stability
20 control systems and adaptive cruise control systems currently in
21 use on motor coaches? And if not, do you intend to prior to the
22 publication of a NPRM?

23 MR. BEUSE: Yes, to the first part which is, have we
24 evaluated the current generation of electronic stability control
25 systems on current motor coaches? Yeah, on all the big class 8

1 ones, absolutely. We had a pretty rigorous test program out at
2 our test facility in Ohio and really put them through some turns.

3 With regard to adaptive cruise control, the answer is
4 not in a while. Our sort of position on ACC is that it's not a
5 safety feature. A safety feature is not something you turn off.
6 We believe before collision warning is the better technology
7 there, and you get essentially ACC with it, and as I said, we're
8 sort of focusing now, the next generation, which is with automatic
9 braking.

10 MR. PRESLEY: Thank you. This is question from United
11 Motorcoach Association for Mr. Conklin.

12 Can these devices or technologies pose a distracted
13 driving problem or interfere with evasive driving maneuvers?

14 MR. CONKLIN: If I can take those one at a time. One of
15 the things that we work with the OEs is specifically to have a
16 warning set that is coherent and consistent with their own human
17 factors and interface factors that they pose on the vehicles. We
18 don't wish to add any additional distraction, noises or alerts.
19 We want the driver to keep his eyes on the road, not on other
20 displays over here. So we work very hard with our respective OEs
21 to provide that type of continuity. So hopefully that answers the
22 first part of your question.

23 As far as evasive maneuvers, what we found is that these
24 systems actually help from a stability control standpoint,
25 maneuverability of the vehicle, even at the edge of the handling

1 limits. That's where they really start to shine in helping the
2 driver in these evasive maneuvers. The vehicle tends to be a
3 little bit more damped in its control response in a
4 maneuverability type of situation, and does follow the driver's
5 direction better than a vehicle without the technology. Of
6 course, that's all within the limits of physics again like the
7 previous question. You can overdrive these systems to the point
8 of where they can only do what they can do.

9 MR. PRESLEY: Okay. Thank you.

10 This question is from the Truck Manufacturers
11 Association directed to Mr. Beuse.

12 Does NHTSA have any plans to require ESC on trailers?

13 MR. BEUSE: At this time, no, we do not. What we found
14 in our testing, when we were going through this process of trying
15 to figure out what we were going to propose, there was a lot of
16 competing technology. So we looked at sort of baseline vehicles,
17 looked at baseline vehicles with sort of RSC just on the trailer.
18 We looked at vehicles that has RSC on the trailer and on the
19 tractor, and then finally vehicles that had, you know, ESC and RSC
20 on the trailer, and all that testing that we did, ESC was always
21 the top performer, but I will say that obviously RSC on the
22 trailer, if you're looking at a price differential in the current
23 marketplace, that RSC on the trailer is better than RSC on nothing
24 at all. So I don't mean to imply that it doesn't work. The
25 technology absolutely does work. From an effectiveness standpoint

1 which is what we're looking at it from, for a safety benefit
2 standpoint, the unit on the tractor always sees the event sooner
3 and was able to always react in time to mitigate. So that's where
4 we're going with this.

5 MR. PRESLEY: Thank you. This question is from the
6 Truck Manufacturers Association, and we'll direct it to Mr. Korn
7 and Mr. Conklin.

8 Have your ESC systems been engineered into all
9 variations and configurations of tractors produced?

10 MR. KORN: I'm always careful with the word all. I
11 would say, no. You know, we've addressed the standard tractors
12 and some of the more odd configurations, but when you say all,
13 there's a tremendous variation of vehicles built and I'm not
14 saying that it couldn't work with those vehicles. It's just they
15 haven't been validated.

16 MR. CONKLIN: And if can add to that. In some cases, we
17 don't even know where that envelope starts and ends because that
18 one outlier gets built, you know, one copy gets built every five
19 years for some specialty marketplace. However, I think for both
20 ourselves and from other conversations that Alan and I have had,
21 our goal to aggressively make that process for validation of those
22 vehicles as painless and as fast as possible to make sure we pick
23 up those outliers with no delay in the overall vehicle
24 manufacturing and customer receipt process, is something that we
25 work very hard on.

1 MR. PRESLEY: Thank you. And I believe we're out of
2 time. Thank you, Mr. Chairman.

3 CHAIRMAN SUMWALT: You're quite welcome. Thank you.
4 And to the federal government.

5 MR. HARRIS: Thank you, Mr. Chairman. I'm Claude Harris
6 with the National Highway Traffic Safety Administration, and my
7 first question is to Mr. Korn and Mr. Conklin.

8 Both of you indicated that there's great promise with
9 the new crash avoidance technology, and I want to ask both of you,
10 what do you see as the challenges for possibly regulating both
11 forward collision warning and collision mitigation systems on
12 large trucks and buses?

13 MR. CONKLIN: As Alan mentioned earlier, Europe already
14 has some intent to do exactly that with ESC in 2011 through 2014
15 and collision mitigation in the 2013 through 2015 time frame. I
16 think what it comes down to is that I know that the agency has
17 been working quite a bit with some of the systems that are
18 currently available in both designing the methodology for testing
19 and then evaluating the performance of the systems that are
20 currently available from ourselves and Meritor WABCO. As Matt
21 mentioned earlier, the collision mitigation is probably where the
22 most benefit is. The ACC, adaptive cruise control, is something
23 that you can turn off and may not provide the safety benefits as
24 such.

25 I think that we will have to wait to see what the

1 efficacy, based on the crash data that we all have, whether it's
2 the truck crash causation or any other databases that we use to
3 see how the technology and the efficacy of the systems today and
4 of the Next Generation systems can attack those individual cases,
5 and it will come down to some level of looking at individual cases
6 to evaluate, and that's a little bit about what the UMTRI study
7 for stability control, looking at the individual crash cases to
8 understand the efficacy and from there, you can model your
9 response.

10 MR. KORN: Yes, I can just add as far as regulatory
11 challenges, I mean clearly there has to be an agreement then, what
12 is the required performance going to be, the minimum performance
13 requirements, and then, you know, as we're seeing with ESC, what
14 seems very simple coming up with a test procedure oftentimes is
15 not as simple as it might look from the outside.

16 So I think once the minimum performance standards are
17 established, we're looking very closely, even through SAE at
18 what's happening in Europe, and we're following that type of
19 regulation, but oftentimes that regulation doesn't have
20 performance criteria. They can have these type of approvals as
21 you know. So maybe sometimes it's a little easier in Europe than
22 it is here, but I think probably the two main things would be
23 establishing what the minimum performance level is and then how do
24 we run a compliance test to ensure it's achieved.

25 MR. CONKLIN: And that's an important point that Alan

1 made regarding the way the European safety regulation is being
2 approached. While they have dates for implementation already,
3 they are still discussing what the minimum performance standards
4 and how, or if quite frankly, they're going to evaluate those in
5 real performance examinations. So it seems a little bit like the
6 cart before the horse sometimes.

7 MR. HARRIS: Okay. The second question is to the both
8 of you again, and this is from the Federal Highway Administration.

9 Does your current forward collision warning system have
10 a pedestrian protection feature? And if so, can you discuss the
11 limitations and challenges of that feature?

12 MR. KORN: What was the feature you mentioned?

13 MR. HARRIS: Pedestrian protection. I'm sorry.
14 Detection.

15 MR. CONKLIN: At this point, the systems do not have
16 pedestrian detection built into them. In most cases, the radars
17 are required to sense a significant amount of metal in an object
18 to get a reflection of the radar energy. As Bendix looks forward
19 and we look into the integration of something I described as
20 sensor fusion with use of camera, we see that in the 2013 time
21 frame and beyond, things like pedestrian detection warning, as
22 being one of the features that will be on the short list to be
23 implemented. So not now. Later.

24 MR. KORN: And keep in mind that the radar beam,
25 especially as you get close to the vehicle is rather narrow. So

1 if a pedestrian is very close to the truck but not in front of the
2 truck, that radar beam probably won't even see the pedestrian. So
3 I think there are certain vehicles built, I think some European
4 vehicles where they actually have two additional radar sensors on
5 opposite sites of the center radar for that very purpose, to look
6 for pedestrians as well as bicyclists.

7 MR. HARRIS: Okay. All right. Thank you.

8 For Mr. Newell, and this is from me.

9 What were the largest challenges in obtaining a driver
10 acceptance for the lane departure and the collision mitigation
11 systems on your trucks?

12 MR. NEWELL: There really wasn't any on the lane
13 departure. When I tested that, I took five guys, very vocal guys
14 that I had in the fleet, and I put it on their trucks and let them
15 test it. There was absolutely no repercussions whatsoever back
16 from the drivers. They absolutely loved it. The collision
17 mitigation, you have to understand that I started with a passive
18 system, then moved everybody to an active system. I faced all the
19 grumblings on the passive system. The active system was so much
20 better than the passive system, no offense guys, but it was so
21 much better there was absolutely no -- there was nothing. Again,
22 the drivers really like it. But I will tell you the passive
23 system, it's a change. If they've not experienced it, it's the
24 beeping that's going off and the carrying on in the truck. They
25 get real tired of it or they change their behavior.

1 MR. HARRIS: Okay.

2 MR. NEWELL: And that's the way it's supposed to be.

3 MR. HARRIS: A second question to you, Mr. Newell.

4 Although you provide considerable training for the vehicles
5 equipped with the new safety technology, have you seen any
6 problems with either driver distraction or information overload?

7 MR. NEWELL: The new active system doesn't have the same
8 warning systems in it that the passive system does. It's totally
9 different. The false reading rate in my experience is about 99
10 percent of them are accurate with the active system. The passive
11 system, maybe 90 percent of them are accurate. It's gotten a lot
12 better. There's still room for improvement but it's gotten a lot
13 better. So I don't think there's -- you know, you took away --
14 when I was running lane departure warning and the passive system,
15 I'd say there probably was a lot of noise that was taking place if
16 they were driving a certain way. Again, they're tools designed to
17 change driver behavior, and if they work, which they do, the noise
18 gets less and less and less in the truck, but with the active
19 system, there's really nothing there. I mean, yes, it does warn
20 them but it's minimal compared to the passive systems.

21 MR. HARRIS: Okay. Thank you. This next question is
22 for Mr. Beuse, and it's from me.

23 Are you familiar with the NHTSA priority plan?

24 MR. BEUSE: It's by my beside.

25 MR. HARRIS: Can you briefly describe what it entails

1 for large trucks and buses?

2 MR. BEUSE: Sure. A lot of stuff. Besides that, it
3 outlines for the next 3 years essentially the agency's decision
4 process and those items that we plan to propose rules and exact
5 dates for a number of projects for truck tractors, for motor
6 coaches, the research plans for those and reform, and also what
7 we're considering as part of the rules. That's available on
8 NHTSA's website and I will actually also submit it to the docket
9 for this hearing so that everybody can find it pretty easily. And
10 that went through a couple of revisions where we -- actually just
11 as an update. We had put out a plan before and we've gotten new
12 priorities from the Congress. So we've had to adjust some things,
13 but this plan represents at least as of current day where we're
14 going with things.

15 MR. HARRIS: Thank you. No further questions.

16 CHAIRMAN SUMWALT: Okay. Great. I think that takes us
17 all the way around, and we're really right on time. What burning
18 questions are out there? How many tables have burning questions,
19 things that you just can't live without asking? Raise your hands.

20 Okay. Great. And any other tables?

21 Okay. Great, if you'd ask that one final question, that
22 will certainly be fine. Thank you.

23 MR. OSIECKI: Just a very basic question. Obviously the
24 trucking industry is very diverse and there are trucks in all
25 types of operations and all types of environments. Do these

1 systems, all of them have equal benefits in all those different
2 environments, some more than others? And I think we heard from
3 Mr. Newell who largely is in sort of a long-haul environment on
4 interstate routes. Can you guys speak to the use of the devices
5 in intracity use, particularly let's say on a standard garbage
6 truck or on a dump truck in a construction zone, those sorts of
7 things?

8 MR. CONKLIN: One of the things that surprised us from
9 the Bendix standpoint was the interest from cement mixer fleets
10 that have vehicles that have a tendency because of their
11 configuration, to carry their loads very high and have a very high
12 CG. The response from that industry was a surprise to us because
13 we were focusing in on the long-haul industry in a lot of cases
14 and some key markets, and as such, we ended up adjusting our
15 product plans to meet their needs and their requests, and that's
16 been fairly successful for us.

17 Very different markets do have different drivers,
18 whether it's tire wear or crash avoidance, crash detection, what
19 have you. So there's more value in different area. I think you
20 said that as part of your question. That has rung true. In some
21 areas, you know, we question, we talk about intercity transit
22 buses. Where do they stand in the risk factors related to say
23 stability control or forward collision warning? They may have a
24 different profile than a long-haul tanker or something hauling
25 triples. But some of the basic equations are all the same. It's

1 just the waiting of those individual factors.

2 CHAIRMAN SUMWALT: You may. This one, you won't sleep
3 until you've asked this one. All right. Okay. Go ahead.

4 MR. SPENCER: Well, I know you're dying to hear it. You
5 know, I know or I would certainly think that the forward warning
6 systems would certainly almost invite drivers to perhaps drive a
7 little faster than they should in foggy conditions and fog is
8 really, really common for drivers at night, and even -- and I'm
9 not necessarily saying they're pushing the technology, but I have
10 read before that fog is one of those conditions where it's sort of
11 dulls your senses and you don't necessarily realize. You don't
12 have the points to focus on to realize how fast you may be going.
13 Has anybody noticed that as something that is a real concern with
14 using the technology?

15 MR. NEWELL: I haven't seen it all. I've actually seen
16 the opposite. We try to get them, you know, somebody talked about
17 glare ice a while ago. My rule of thumb is if there's glare ice,
18 you don't need to be on it, and I understand that you get caught
19 on it, you know. As far as the fog goes, same instance. The
20 Virginia accident that happened what, a couple of months ago, we
21 had two trucks in that. Both our trucks got stopped. We're
22 sitting there with the four ways on. Does it work in fog? Yes,
23 and I think the drivers -- and that's part of that education piece
24 upfront, you can't overdrive it, obviously, but I haven't seen
25 that. I haven't seen them try to go faster or anything like that.

1 And I think I have a pretty good relationship with most of the
2 guys and they'll tell me what they think because I allow them to
3 tell me what they thing, because I think that's the only way we're
4 going to get better is if they can voice their opinion. So my
5 opinion, no, I haven't seen it.

6 MR. KORN: And I think also, you know, the bottom line,
7 the message that we want to get to the drivers is don't rely on
8 these systems. Don't drive faster in fog and think your collision
9 mitigation system is going to help you. Drive as if you don't
10 have a collision mitigation system. It's just there, just in case
11 you make an error in judgment or a lead vehicle does something
12 that's unexpected, but we can't allow more aggressive driving with
13 these systems. That's just the complete wrong approach.

14 CHAIRMAN SUMWALT: Great question, and I think we've
15 seen this behavior when SUVs came out. Once they came out, people
16 felt they were bulletproof when driving in snow and all and you
17 drive down the road and see them all in the ditch, but -- okay.
18 Good.

19 Now, we've had two really important burning questions
20 here. I know there's got to be more, and I'm not soliciting. We
21 are on time, but if there's really something out there that
22 anybody wants to ask.

23 Okay. Seeing none, we're going to go back to the
24 Technical Panel and, Ms. Morrison.

25 MS. MORRISON: Mr. Lack, I'll let you go ahead.

1 MR. LACK: This question is for Mr. Beuse.

2 What challenges does NHTSA have in evaluating new safety
3 technologies that aren't available in large numbers in the current
4 vehicle population? And how is it working to overcome those
5 challenges?

6 MR. BEUSE: There's a couple of answers to that
7 question, so I'll start with sort of some of the basics, right,
8 figuring out whether technology works or not. We've done that a
9 couple of different ways. Sometimes just driving them out on the
10 test track and seeing what they do, talking to the industry,
11 seeing what they're doing, trying to exercise the systems in
12 certain extreme maneuvers. I guess I would call them certain real
13 world scenarios that we would think that the technology would work
14 in.

15 All that leads to sort of some test development and
16 pass/fail criteria and things like that. But the challenge of
17 coming up with those tests is not as simple as it sounds. I mean,
18 with stability control, I lost count now, but I think it was
19 somewhere 15 or 20 different test maneuvers we ran plus umpteenth
20 number of vehicles plus whatever the industry was running and
21 providing us with data. It's not an easy task, and should not be
22 underestimated how hard it is to do.

23 Then you talk about pass/fail criteria on top of that.
24 Where do you drove the line between a good and a bad system and no
25 system at all.

1 The other challenge is effectiveness. We are a safety
2 agency, and we do not want to mandate something that doesn't work,
3 and so trying to come up with different ways to get that number
4 without waiting for sort of lots of crashes and bodies and
5 injuries to happen before you make a decision. So we've been
6 trying new methods, improvements on old methods to try to get at
7 that answer sooner.

8 Practicability is something that hasn't been mentioned
9 here, but it's something that we have to consider when we do
10 rulemaking and that's whether or not the technology is practically
11 available. There are cases where it may not be feasible. Right
12 now with stability control, for example, there are very few
13 systems available for single unit trucks. So you can't really go
14 forward with the regulation for all commercial vehicles if some
15 large portion of those vehicles don't even have the technology
16 available. People are working on it, but it's not available right
17 now in the marketplace. So I'd say those are probably sort of the
18 three big ones, is the availability of some technology to test
19 beyond just the prototype, test procedure development and then
20 figuring out the effectiveness of those technologies.

21 MR. LACK: Now, in evaluating stability control, you use
22 simulation in calculating your effectiveness rate. Have you
23 considered using that with other technologies to try to speed up
24 the process?

25 MR. BEUSE: We have, and that's exactly what we're doing

1 now. So we're sort of doing the first phase of that with the
2 collision mitigation systems in sort of exercising them on the
3 test track, and that information will get fed in. I think one of
4 the things that we're doing and why it takes a little bit longer
5 so to speak is we're not just looking at crash data and saying
6 this many crashes were rear ends and therefore this technology is
7 going to work. We're actually going out and pulling those police
8 accident reports and actually looking at, you know, scene diagrams
9 and whatever information we can get our hands on, to actually try
10 to reconstruct what that was, to actually see if the technology
11 would even be effective.

12 I mean, if you look at some of the crashes, where people
13 say FCW would have worked for instance or collision mitigation
14 would have worked, I mean I looked at one just yesterday where I
15 think the truck was going anywhere between 65 and 70 miles an
16 hour, and it ran over like 5 vehicles, and it was given as an
17 example as one where the technology could have helped, and I look
18 at it and say I'm not so sure. That's sort of some of the
19 research that we're doing and the sort of look we're doing at
20 these things before we make these decisions.

21 MR. LACK: This is for Mr. Beuse again.

22 Has NHTSA calculated an effectiveness rate for collision
23 warning systems?

24 MR. BEUSE: No, we have not, but our sister agency, the
25 Federal Motor Carrier Safety Administration has using data from

1 some FOTs and things like that. What we're doing is we're going
2 to refine that study but we haven't calculated one that we would
3 use in a rulemaking or anything like that.

4 MR. LACK: This question is for Mr. Korn and
5 Mr. Conklin.

6 Do either of you produce a stability control system for
7 a hydraulically braked medium size vehicle?

8 MR. KORN: We do not. We've developing a hydraulic ESC
9 system, but we do not have one available today for production.

10 MR. CONKLIN: Bendix concentrates on the airbrake system
11 market. We do not have a product in the hydraulic brake system
12 area.

13 MR. LACK: Are any of the panelists aware of a stability
14 control system for a medium sized vehicle above 10,000 pounds?

15 MR. KORN: We have a prototype we've been evaluating and
16 we just gave that back.

17 MR. LACK: But it's not on the record, correct?

18 MR. KORN: Not on production system, no.

19 MR. LACK: Thanks. I have no further questions.

20 MS. MORRISON: Thank you. I have just a few questions.
21 This question is for Mr. Korn.

22 You had a pyramid on one of your slides that talked
23 about the layers of these technology systems all the way from the
24 ground level of foundation brakes up through ESC and collision
25 mitigation up into the fleet management technology and that's

1 where my question lies. In this fleet management system, there is
2 a lot of data and you show that in another one of your slides,
3 actually probably two more into the presentation from here, maybe
4 a couple of more, where there's a lot of parameters that are
5 collected by the fleet management system, the safety direct
6 system. That seems like a lot of data. How is that data managed,
7 and how long is it collected for and kept for and stored?

8 MR. KORN: You bring up a very good point because now,
9 you know, we see it all over. You can have data overload.
10 Imagine the amount of data a fleet that has 1,000 drivers might
11 have. There's just a limit to what can be done. So what we're
12 looking to do is try to boil up through a software routine the
13 most aggressive driver. There's no right or wrong here. I think
14 Dean had said, there's no line that says below the line you're a
15 bad driver and above the line, you're a good driver. So it's very
16 much a comparative type thing for an individual fleet.

17 So like if you have a fleet and let's assume the fleet
18 average on a collision warning is 2 and you have one particular
19 driver that gets 10 per 1,000 miles, that bubbles up to the top
20 and that's where a fleet can put their focus. There's going to be
21 some degree of software built into the system to where a fleet
22 doesn't have to look through 1,000 driver records and pick out the
23 ones that require training.

24 Regarding data storage, it's offloaded from the truck and
25 then it goes to a server. In the server right now, it's stored

1 for about 6 months, but then the fleet can download the data and
2 store the data, whatever policies are in place at the fleet.

3 MS. MORRISON: Thank you.

4 And to Mr. Newell, have you needed any additional
5 resources such as manpower to analyze, collect and store this
6 data?

7 MR. NEWELL: No, we don't call it a safety product. We
8 call it a company product and operations has bought in with me and
9 it's a joint venture between safety and ops, and they sit down and
10 they go through the list. I don't look at a sheer number. I look
11 at percent of change from month to month. Again, it goes right
12 back to what's going on in the driver's life and things like that
13 that cause these numbers to jump one way or the other, and you've
14 got to understand, I'm not just looking at this data. It's
15 everything that I have access to. So we focus on that. Ops take
16 a certain percentage of them. Safety takes a certain percentage
17 of them. We call them rec cons (ph.) and retention conversations
18 or value driven driving is what we call it. So they take their
19 turns and they talk to the drivers and find out what's going on.

20 So I've not added anybody with the exception of getting
21 operations brought in. It did change the duties somewhat. We
22 automated our DQ file process. So instead of -- I moved those
23 people to doing something different. So I really didn't add any
24 bodies. I just changed some duties around.

25 MS. MORRISON: Thank you.

1 And my final question is for Mr. Beuse.

2 You mentioned speed limiters at 68 miles per hour and a
3 proposal in 2012. Of what segment of the commercial vehicle
4 population would that 68 miles apply, and why 68?

5 MR. BEUSE: The petitions that we responded to gave 2
6 numbers, 68 and 65. So part of the analysis we're doing is to
7 look at what that number should be. Should it be 67, 66,
8 whatever. So based on the crash data, we're looking at that.

9 Obviously even though the petitioners, in plural,
10 because there were two separate petitioners, sorters limited their
11 petition to Class 8 vehicles. As a safety agency, when you get
12 something like that, and you decide to move forward on it, you
13 sort of say, well, just because that's what that narrow focus was,
14 that doesn't mean we shouldn't take a broader view as part of our
15 analysis to see who should be in that pool with such a regulation.
16 So that's why the analysis has taken some time because we're going
17 through that decision process right now to figure out what speed
18 it should be, who should be covered and actually in some ways even
19 trying to define what exactly a speed limiter is. I mean it's not
20 trivial.

21 MS. MORRISON: Agreed, and do you believe then it would
22 be defined by GVWR?

23 MR. BEUSE: More than likely, yes. That's the way most
24 of our heavy vehicle regs are set up.

25 CHAIRMAN SUMWALT: Dr. Marshall.

1 DR. MARSHALL: I have a question for the manufacturers.
2 I was just wondering, in an avoidance maneuver, how does the
3 effectiveness of crash avoidance technology, how is it affected by
4 the type of load a truck is carrying? For example, if it's
5 carrying a partial load of gas versus chickens or office supplies?

6 MR. CONKLIN: The systems, the stability control systems
7 that you're talking about, and maybe if you would describe --
8 maybe I'll start over.

9 DR. MARSHALL: I'm sorry. I meant ESC.

10 MR. CONKLIN: You meant ESC versus collision mitigation.
11 The systems are fairly aware of the overall mass of the
12 combination of the vehicle, and as such, they can adjust. Their
13 response is based on the mass of the vehicle. We take certain
14 conservative approaches with respect to what the center of gravity
15 and load limits are, and make the best choices based on the
16 information that we have to address the stability intervention at
17 hand.

18 MR. KORN: Yes, maybe one day in the future, they'll be
19 communication between the load and the control system. We're in
20 the age of data. But as Rick said, right now we have a rough
21 approximation of the mass. We don't really know where the CG is,
22 and we try to assume a conservative approach so that the system is
23 going to intervene when it needs to.

24 MR. CONKLIN: In some cases, there are different tunings
25 of the stability system based on what vocation the vehicle was

1 built to actually serve, but in some cases, for instance, the
2 general freight, 6 x 4 tractor, is built and it can pull many
3 types of cargo throughout its lifetime. So it has a more generic
4 type of tuning built into it.

5 DR. MARSHALL: Okay. One last question. I think you
6 mentioned pedestrian detection. I was just wondering, how do you
7 think crash avoidance technology is going to be a little involved
8 during the next decade?

9 MR. KORN: How will it evolve in regards to pedestrian
10 detection or --

11 DR. MARSHALL: No, I'm just saying that you mentioned
12 pedestrian detection --

13 MR. KORN: Yes.

14 DR. MARSHALL: -- as one aspect that could come in.
15 What other aspects might we expected in the next 10 years?

16 MR. KORN: I mean clearly I think, and I can speak from
17 our perspective. Like I had mentioned, we do not react today on a
18 pure stationery object where the system is not seeing any
19 velocity. In the future, that will be modified. So that will be
20 one big performance improvement where the system, the next
21 generation system will detect the stationary object and react to
22 it, and probably provide some degree of braking.

23 I was somewhat surprised just about pedestrian
24 detection, about how many pedestrian fatalities occurred with
25 heavy trucks. I didn't think there would be that many but I was

1 surprised looking at the FMCSA data how many there were, and again
2 if we let data drive development, that's what we want to do, and
3 potentially that should be addressed, and there are technologies
4 now obviously that can do that. I mean there's camera
5 technologies. I believe NHTSA has incorporated a rearward camera
6 for I believe it's 2011 for cars, and potentially actually going
7 one step further, integrating a braking system where the
8 technology can actually brake if it sees an object or a pedestrian
9 that's in its path. So I think that's where you're going to see
10 development, but again as long as we can have very good data, and
11 then let that data drive where development needs to go.

12 MR. CONKLIN: Just to add a little bit to that. Our
13 systems today from Bendix do warn on stationary objects and, you
14 know, we would look like Alan mentioned, to be able to actually
15 intervene on those stationary objects in the future as the object
16 recognition that's brought on by the combination from data coming
17 from both cameras and radar brings us a better vision of overall
18 the situational awareness around the vehicle.

19 But in addition to that, things like blind spot
20 detection available as standalone today, can be added to the
21 overall understanding of what's going on the vehicle and adding to
22 the safety elements. You know, it's a great big blind spot on a
23 Class 8 highway tractor that is very much an area where accidents
24 happen on a daily basis.

25 The other thing that cameras do bring is the ability to

1 recognize objects and that includes things like street signs and
2 highway, for instance, speed limit signs. If you know a situation
3 where a driver is beyond the recommended speed limit, you can warn
4 the driver of that. That seems to be a pretty interesting area of
5 growth for these systems beyond the 2013 time frame.

6 DR. MARSHALL: Thank you.

7 CHAIRMAN SUMWALT: I'm very excited about the future. I
8 think we said yesterday that the fatality rate in the last decade
9 has decreased by about 40 percent, and that's fantastic, and I
10 believe that technology, the crash avoidance technology and the
11 crash mitigation technology that we'll hear about in the next
12 panel will be a significant driver in bringing that crash rate
13 down even more. So this has been a very informative panel. I'm
14 excited about the future. So thank you all, thank our panel for
15 coming.

16 We will come back at 3:15, and we're about on the
17 downhill slide.

18 (Off the record.)

19 (On the record.)

20 CHAIRMAN SUMWALT: Okay. We'll start in about a minute
21 if you can take your seats please.

22 Okay. Everybody came back. That's a good sign. So
23 here we are on the last panel and, Dr. Marshall, are you ready to
24 proceed?

25 DR. MARSHALL: Yes, sir.

1 CHAIRMAN SUMWALT: Please.

2 DR. MARSHALL: Our last session of the forum will
3 discuss passenger restraints, vehicle crashworthiness, vehicle
4 underride and highway barrier systems.

5 Our Technical Panel is led by Dr. Tom Barth who is
6 accompanied by Dr. Kristin Poland and Mr. David Rayburn.

7 Dr. Barth, would you introduce your subject matter
8 experts?

9 DR. BARTH: Yes. Welcome to the crash mitigation panel.
10 We have five panelists with representatives from government,
11 industry and advocacy. First is Mr. Nick Artimovich. He's the
12 senior roadside design engineer from FHWA. We have Mr. Louis
13 Molino, Chief of the Light Weight Vehicle Division of the National
14 Highway Traffic Safety Administration; Mr. James Johnson, the Vice
15 President of Sales and Business Development at Indiana Mills
16 Manufacturing, Incorporated; Mr. Timothy LaFon, Manager of
17 Regulatory Affairs for Volvo Trucks North America; and Mr. Matthew
18 Brumbelow, Senior Research Engineer from the Insurance Institute
19 for Highway Safety.

20 And we can start with the opening statement.
21 Mr. Artimovich.

22 MR. ARTIMOVICH: Yes, if my presentation could be placed
23 up. Thank you, and good afternoon.

24 The Federal Highway Administration works closely with
25 the State Departments of Transportation in developing standards

1 and provide safe, efficient and environmentally sensitive highways
2 and bridges. We work with the various subcommittees of the
3 American Association of State Highway and Transportation
4 Officials, or AASHTO, to fund research and to develop standards
5 and guidelines that are followed when projects are constructed or
6 reconstructed on the national highway system. These various
7 standards are maintained and published by AASHTO and are
8 considered to be the latest and best advice on built safe
9 facilities that will meet the needs of the traveling public.

10 Some of these standards are mandatory on the states.
11 Others are advisory. Many of these same standards are formally
12 adopted by the FHWA and are applied to projects building on the
13 national highway system.

14 Most of the countermeasures discussed today dealt with
15 vehicle crashes on the roadway. Over one-third of all highway
16 fatalities involve vehicles that overturn or hit fixed objects off
17 the roadway. The national guidance for the selection and design
18 of roadsides and roadside barriers is the AASHTO Roadside Design
19 Guide. The Roadside Design Guide focuses on the concept of a
20 forgiving roadside, so that motorists who run off the pavement
21 will not suffer serious injury. An area bordering the highway
22 called a clear zone should be provided. A clear zone provides an
23 area that is free of any obstacles or terrain features that would
24 lead to a crash into a fixed object or a rollover. If highway
25 features must be placed within this clear zone, then they should

1 be designed to minimize the consequences of impact.

2 For example, drainage pipe openings can be beveled so
3 that they do not stick up above the surrounding terrain, and
4 lighting poles can be made breakaway so that an errant vehicle can
5 knock them down reducing the risk of a fatal or severe injury to
6 the occupants.

7 Certain features such as bridges and overhead sign
8 structures that span our highways obviously cannot have breakaway
9 supports. In these cases, we have the option to shield these
10 rigid bridge columns and sign supports against impact. The
11 barriers most often used to shield these structures are designed
12 to capture or redirect passenger vehicles, not trucks or buses.
13 It should be noted that the frequency of such collisions between
14 heavy vehicles and barriers is relatively low.

15 The Roadside Design Guide does provide some subjective
16 criteria that a highway agency should consider when deciding
17 whether or not to use a high performance barrier. In 2009, the
18 National Cooperative Highway Research Program published NCHRP
19 Report 638, Guidelines for Guardrail Implementation. This report
20 provides objective guidance on the appropriate barrier category
21 based on the functional class of the highway, the terrain through
22 which it runs, average daily traffic on the highway and the width
23 of the clear zone. Research has shown that the functional class
24 of a highway is more significant than the actual proportion of
25 truck traffic or other design features of the highway itself.

1 A follow-on study to examine the warrants for bridge
2 railings based on traffic characteristics is currently underway
3 and is expected to be completed late next year.

4 In order to develop barriers that will perform for the
5 variety of vehicles on our highways, we subject the barriers to
6 full scale crash tests. There are six levels of crash testing
7 ranging from testing small and large passenger vehicles at 30, 45
8 and 60 miles per hour up to 80,000-pound tractor trailer trucks at
9 50 miles per hour. By far, the most common barriers in use meet
10 what is called Test Level 3. A barrier that conforms to Test
11 Level 3 has successfully redirected a small passenger car and a
12 pickup truck at speeds of 100 kilometers per hour or about 60
13 miles an hour. The common W-beam guardrail meets Test Level 3.
14 For bridge railings, Test Level 4 is commonplace as a 32-inch high
15 New Jersey barrier met Test Level 4 criteria.

16 However, in 2009, AASHTO adopted a new crash-testing
17 standard, the AASHTO Manual for Assessing Safety Hardware. The
18 truck weights, speeds and angle of impact did not change for
19 testing barriers with semi-tractor trailer trucks or tankers, but
20 they did change for single unit trucks commonly known as box
21 trucks. It is these box trucks that are used in Test Level 4
22 crash testing.

23 Under the Manual for Assessing Safety Hardware, the box
24 truck test is more severe, and the 32 inch high Jersey barrier
25 does not meet Test Level 4 criteria. Increasing the height of

1 concrete barriers will certainly improve their capacity to
2 redirect trucks, but you risk additional injury to the occupants
3 of passenger cars whose arms and heads will likely protrude out
4 the side window during a severe crash.

5 In recent years, computer simulation of vehicle crash
6 tests into barriers has helped to reduce the costs and speed up
7 the design of new roadside hardware. However, while mathematical
8 models of pickup trucks, box trucks and even semi-tractor trailer
9 combinations are available, they are not perfect substitutes for
10 full-scale crash tests. The modeling of this impact, for example,
11 predicted the truck would be redirected upright.

12 This 90 inch tall barrier has been successfully crash
13 tested with a tanker trailer, but it forms a solid wall of
14 concrete that would result in a more severe crash for the
15 occupants of a passenger car. The cost alone is enough to limit
16 application of this barrier to no more than four installations
17 nationwide.

18 In order to accommodate large trucks, without
19 unnecessarily jeopardizing occupants of smaller vehicles, this 42
20 inch tall concrete barrier was designed with an offset to the
21 upper portion of the sloping face. The profile reduces the
22 potential for automobile occupants to hit the wall. Yet, it is
23 tall enough to redirect this 80,000-pound tractor trailer.

24 Finally, I'd like to mention cable median barrier.
25 While there have been cases where median cables appear to have

1 captured large trucks, we know that current cable barrier systems
2 do not have the strength to fully restrain a tractor, semi-trailer
3 combination and prevent it from encroaching on the opposite
4 roadway. Thank you.

5 DR. BARTH: Okay. Thank you.

6 Next we move on to Mr. Molino.

7 MR. MOLINO: Our presentation will focus on two main
8 areas, NHTSA's notice of proposed rulemaking on motorcoach
9 lap/shoulder belts and our motorcoach rollover structural
10 integrity testing.

11 We published our notice of proposed rulemaking on
12 lap/shoulder belts in August of last year. We based this on
13 static and dynamic testing of motorcoach seats. Our dynamic
14 testing focused on full vehicle, 30 mile per hour barrier crash
15 tests of a model year 2000 MCI bus. We followed this up with
16 extensive sled testing at similar crash severity. I'm going to
17 play a video that shows --

18 (Video played).

19 Actually, that was the real time of the barrier crash.
20 This is internal high speed video of the inside of the bus.

21 And this is some sled test video.

22 So our notice of proposed rulemaking sought to reduce
23 occupant ejections and mitigate injuries during crashes, all crash
24 events. We defined motor coach. We required lap/shoulder belts
25 on all forward facing seating positions. We specified belt

1 requirements and also attachment strength of the belts. We posed
2 questions regarding the retrofit of motor coach, but we did not
3 propose to have motor coaches retrofit, and we proposed a 3-year
4 lead time.

5 This slide shows the cost benefit analysis we did. We
6 base this on a belt use rate between 15 and 83 percent. That
7 gives us an estimate of 1 to 8 lives per year saved, and 144 to
8 794 injuries prevented annually. We estimate that to install
9 lap/shoulder belts on new motor coach on average would be \$13,000.

10 Our analysis showed that the break-even point for this
11 NPRM would be at a belt rate use of 24 percent.

12 We received extensive comments on the proposed
13 rulemaking. We're analyzing those comments right now. The
14 comments were across the waterfront on the issue of definition of
15 the motor coach, on the retrofit issue, on specifics to the
16 performance requirement, concerns related to seatbelt use rate,
17 cost, market forces on small operators, lead time, et cetera.

18 We anticipate we'll publish a final rule in 2012.

19 Now onto our motor coach rollover structural integrity
20 test. We performed tests according to two test procedures. The
21 first test procedure is FMVSS 220 which is our school bus roof
22 integrity test. We load a roof uniformly at 1.5 times the
23 unloaded vehicle weight, and the crush can't be anymore than 130
24 millimeters.

25 We also performed European test ECER66 which is a

1 tipping test, and it requires a residual survival space within the
2 vehicle as its performance criteria.

3 I just want to show a video of the tipping test. Play
4 the video, please.

5 (Video played.)

6 So we conducted, as I said, both of these test
7 procedures, FMVSS 220 and R66 to a '91 Prevost and a '92 MCI. We
8 also conducted the R66 test to a newer, a model year 2000 MCI
9 motor coach. Both the older buses did not pass the criteria in
10 both the requirements. However, the model year 2000 MCI motor
11 coach did pass the requirements currently in R66.

12 As far as some details about the performance in R66 of
13 the older models, the roof emergency exits opened in both of the
14 buses, the luggage rack detached in the MCI. Emergency exits
15 opened in the Prevost, and most of the seats became detached in
16 the Prevost as well.

17 The R66 test performed on the model year 2000 MCI bus
18 showed no damage to the seats or overhead luggage racks. However,
19 the windows on the opposite of the vehicle did detach and both
20 roof emergency exits did open.

21 We anticipate we'll publish a notice of proposed
22 rulemaking on motorcoach rollover structural integrity this year.
23 The agency may consider requirements related to luggage racks.
24 Window integrity may be addressed in a future rulemaking. We feel
25 like structure integrity is our priority at this point.

1 I just wanted to mention quickly, we also have other
2 crashworthiness activities going on that aren't covered in this
3 presentation. We do have a separate more detailed window
4 retention program going on. We have a program going on on
5 underride guards and we've got some work going on in heavy vehicle
6 EDRs as well. Thank you.

7 DR. BARTH: Okay. Thank you very much.

8 Next we will go onto Indiana Mills Manufacturing,
9 Incorporated. Mr. Johnson.

10 MR. JOHNSON: Thank you, Chairman Sumwalt, Technical
11 Panel and distinguished guests.

12 This is IMMI's 50th birthday. We've been bringing
13 safety to people and studying occupant protection for commercial
14 vehicles which is the bulk of our business for 50 years. We
15 believe every passenger in every commercial vehicle should be
16 afforded the opportunity to wear a lap belt. Today I will talk
17 about motorcoach passenger seat design development and also
18 advanced rollover protection for heavy trucks.

19 In 2001, the NTSB made it's initial recommendation to
20 our National Highway Traffic Safety Administration to develop new
21 standards and new safety systems to protect occupants in all types
22 of crashes, rollovers, side impacts, forward and rearward
23 collisions.

24 In 2009, IMMI had an opportunity to partner with First
25 Group. We were approached by First Group to look at ways to

1 improve or ways to baseline the current level safety in the
2 Greyhound motor coaches that are so prevalent on today's roadways.
3 In fact, Greyhound commissioned a study, and let's take a look at
4 -- okay. We're going to lose our video here it looks like.

5 Today's unbelted seating, and I'll just walk you through
6 this, the research that we performed indicated that
7 compartmentalization was virtually nonexistent in the motorcoach
8 seats used for today. The challenge for IMMI posed by Greyhound
9 is, could you develop a seat with compartmentalization and combine
10 it in a recliner for a motorcoach seat. The answer was yes, and
11 I'm sorry, the videos would have described that very nicely.
12 We've lost these videos as well.

13 The next challenge for us posed by Greyhound is, could
14 you combine compartmentalization with lap and shoulder belts? And
15 when you look at the two problems, the engineering problems, the
16 double loading of the seats, and if you think about what happens,
17 if you think about the possibility, the likelihood that a
18 motorcoach passenger will wear a seatbelt, seated directly behind
19 an occupant who chose not to wear the belt, it's a very likely
20 scenario, the seats are double loaded, and that's the engineering
21 challenge. What we were able to do was provide some technology,
22 develop some technology based on our school bus research using
23 compartmentalization as defined in FMVSS 222, combine that with a
24 lap and shoulder belt, and provide the best protection we knew how
25 to do, that we could prove for passengers riding on our highways

1 today in motor coaches.

2 I'd just like to end with the thought that we finished
3 our project with Greyhound with another study and a validation
4 study of a motor coach that we crashed at 35 miles an hour, where
5 there was an opportunity to learn an awful lot about vehicle
6 crashworthiness, besides what we found in the seating
7 compartments. And I again apologize for losing the video.

8 I think we've got the video running now. The seat
9 you're watching now is in about 90 percent of the motor coaches on
10 the U.S. highways today. It's a very popular seat model. The
11 challenge was develop a seat that exhibited compartmentalization
12 characteristics like we have in school buses, all for unbelted
13 occupants. The next challenge was to add a lap and shoulder belt,
14 and if you look at typical European designs, you see we talked
15 about double loading. You see that directly behind is not belted,
16 and let's watch what happens. The seat back is pulled away and as
17 Mr. Molino from NHTSA showed, their research indicated the exact
18 thing, the exact same kinematics. You see the occupant with not a
19 lot of energy absorbed, have a lot of rebound. If you look at
20 combining compartmentalization in a dual frame technology and this
21 is technology designed specifically for school buses and motor
22 coaches, you see the seat frame can handle the load of both the
23 belted and the unbelted occupant.

24 Again, taking a look at our motor coach crash, in this
25 crash we had the premier seat. It was a very high energy crash.

1 Essentially we were able to validate the performance of the seat
2 in a real world environment.

3 Again, just final thoughts. When you try to develop
4 safety systems, you try to understand the baseline of safety.
5 It's important that you understand the ridership population. In
6 this case, it was important to provide protection for both belted
7 and unbelted. We had to look at the entire family of passengers
8 that were possible and that includes latch. Part of the seat
9 development included making provisions for add-on child seats in
10 motor coaches.

11 I'll spend the next minute or so on heavy occupant
12 driver and passenger protection. When we talk about improving
13 safety for commercial drivers and passengers in Class 6, 7 and 8
14 trucks, we're talking about doing something to mitigate rollovers.
15 With passengers and drivers of these vehicles, they're 30 times
16 more likely to die in a crash that involves a rollover. In fact,
17 66 percent of all fatalities involve a rollover in a Class 8
18 truck, and there's some reasons for this.

19 We'll look at a belted driver, and I want to talk about
20 specifically what happens, talk about the kinematics, talk about
21 the movement, the suspension seat contributes to driver movement,
22 placing the driver out of position. You can see the driver
23 strikes the head between the A and B pillar and is not in good
24 position for that rollover impact. We developed an advanced roll
25 protection system that senses the roll, pretension's the driver or

1 passenger, pulls the suspension seat to the lowest position and
2 deploys an aircushion, and what we've been able to do is take
3 injuries that would be serious to fatal in the head and neck area
4 and reduce those to walk away events.

5 Again, at IMMI, we validate our systems, and this is a
6 video clip of a remote control crash that we performed with the
7 roll tech system engaged. And finally, we started in 1980
8 incorporating lap and shoulder belts in heavy trucks, usage less
9 than 10 percent. As we're into 2011, the latest statistics show
10 that usage is up to 78 percent, and it's comfort and convenience
11 that drive that, and we focused on this for a number of years. We
12 want passengers to wear the belts. It's important that you
13 provide a comfortable system, a convenient system, and we've
14 proven that with that type of focus, we can get passengers to wear
15 lap and shoulder belts in these large vehicles. Thank you.

16 CHAIRMAN SUMWALT: Yesterday we had -- I'm going to jump
17 in here for a second. We had a nice discussion yesterday
18 afternoon about what's it going to take to get passengers to wear
19 seatbelts if the motor coaches are so equipped. If people saw
20 those videos, they would wear them. That's very compelling.
21 Thank you very much.

22 DR. BARTH: Excellent.

23 Okay. So next we'll move onto Volvo with Mr. LaFon.

24 MR. LaFON: Yes, thank you. Slides please.

25 First of all, on behalf of Volvo Trucks North America

1 and the entire Volvo Group, I appreciate the opportunity to come
2 and share information with you. I've personally attended all the
3 sessions, and I've found it to be very useful and informative.
4 One thing that I do hope is that you'll find the information that
5 I'm sharing here very informative and useful.

6 But I would like to break protocol, if that's okay, and
7 if I'm a little too loud, at least my sons tell me I'm loud, so I
8 hope I don't blast you out but anyway, does anyone know what the
9 first motor vehicle safety standard was in the U.S.? Anybody?
10 Come on Claude. You know. I might be in trouble later on with
11 questions that are forthcoming, but I'll share with you, it was
12 seatbelts. Seatbelts. It's amazing that over 40 years ago, I
13 mean the Motor Vehicle Safety Act come into effect in 1966. 1967,
14 we had our first regulation in the U.S., and it was seatbelt
15 assemblies.

16 To quote NHTSA, there's a lot of useful information on
17 NHTSA's website which I totally agree with, "Buckling up is the
18 single most effective thing that you can do to protect yourself in
19 the event of an accident."

20 I'm going to show a video that I shared with Federal
21 Motor Carriers some years ago that shows a belted driver and an
22 unbelted passenger, and I think that this is very useful and
23 important information. It shows the effects of not being belted.
24 So I hope you find this very interesting.

25 (Video playing.)

1 Yeah, basically just to walk you through that, as you
2 saw, the passenger was unbelted, and they, in fact, got sent out
3 of the cab. So that person we had thought had died basically as a
4 result of the accident. Of course, it's very important to wear a
5 seatbelt, and with the information that we have today, I think
6 it's, to be honest with you, inexcusable not to. It's something
7 that's there. It's very effective. There's been many years of
8 development and so forth.

9 Does anyone know who first designed the three-point
10 seatbelt system? Volvo. Okay. That's my plug for the company
11 but, yeah, we did come out with the three point design. So we
12 designed that.

13 If we look at the inside of a Volvo truck, go to the
14 next slide, as you can see, we offer standard three-point
15 seatbelts for both the driver and passenger. The driver's side,
16 we do provide a standard airbag there. We do have steering
17 columns that collapse and a steering wheel that deforms and also
18 we have knee panels that absorb the leg impact and, of course,
19 high strength steel cab. One thing I will add that we have
20 recently added is a seatbelt reminder that basically above 15
21 miles an hour, if you're not wearing your seatbelt, it does come
22 on with a flashing and audible. So that's some additional things
23 that we've done as a manufacturer, responsible manufacturer to
24 make sure that folks are wearing their seatbelts.

25 I'd like to run the barrier test here that will show

1 information. I'm sorry. The slides are also a little mixed up
2 there.

3 If I can walk you through it, one thing that also
4 happens with the way we design our product is the engine and
5 transmission drop down and go under the cab to protect the
6 occupants as you can see there. And also part of the requirements
7 is after we run this barrier test, you have to be able to open the
8 door.

9 Also we'll show you our cab impact test. We test our
10 cabs, the Swedish impact test, which is one of the most stringent
11 in the world. Can we run that real quick?

12 Okay. I see I'm running over here. So I'll make this
13 quick, the last few slides.

14 First of all, we do have a safety vision which is zero
15 accidents with our products. Of course, there's a lot of things
16 that's not under our control but, you know, we try to design
17 safety into our vehicles and work with outreach programs and so
18 forth to make sure that the public is educated.

19 The focus currently is on crash avoidance, and I think
20 that's a focus for NHTSA also. So that's what we're working on
21 now, and also public awareness such as the ATA's American Road
22 Team.

23 If I can leave you with just a closing remark, seatbelts
24 are definitely the most effective way to mitigate the risk of
25 injury in the event of a crash. According to NHTSA, seatbelts

1 save over 13,000 lives a year. I appreciate the time, and I guess
2 I'll hand it over to the next speaker.

3 DR. BARTH: Okay. Thanks a lot. And so the last
4 presentation we have is from Mr. Brumbelow from IIHS.

5 MR. BRUMBELLOW: I do want to thank you for inviting me
6 here today to share about our recent research in trailer underride
7 protection. We've seen similar charts several times in the past
8 couple of days, and the good news is that passenger vehicle
9 occupant deaths in large truck crashes are decreasing as shown on
10 the right-hand axis here, but that's essentially what's happening
11 overall for passenger vehicle occupant fatalities. So while it is
12 good news, it seems to just be mirroring some larger trends in
13 what we're seeing. And, in fact, if you look at large trucks as a
14 crash partner for passenger vehicles, there's been a trend of
15 slowly increasing prevalence of large trucks until 2009.

16 So one possible interpretation of this, that is in line with
17 other research that we've done, is that as passenger vehicle
18 designs are improved with regard to their crashworthiness, they
19 become safer in crashes with other types of passenger vehicles and
20 even fixed objects. Those improvements though don't carry over to
21 the same degree when large trucks are involved in the crash.

22 In the US, and everywhere for that matter, one of the
23 major issues in passenger vehicle, large truck crashes is
24 underride. In the U.S., there are two safety standards, 223 and
25 224, that deal with rear underride protection, and I've just shown

1 on this drawing some of the major components. 223 contains
2 quasistatic requirements, and these squares on the diagram are
3 drawn to scale. So those represent the size of the loading plates
4 and the location where the guards are tested. And then 224
5 contains dimensional requirements for the guards and also
6 specifies which kinds of trailers are required to have guards
7 installed. So 224 indicates that all straight trucks are exempt
8 from the standard, and then there are different exemptions even
9 for different types of trailers.

10 To look into exactly how these guards are performing, we
11 looked at the LTCCS. We've talked about that database several
12 times, but this was a completely different use of it from any that
13 I'm aware of, and that has to do with just the rich detail that is
14 contained in this database relative to FARS or even NASS as far as
15 measurements of the truck itself. And so using these measurements
16 and even a lot of good onscene photography, we're able to figure
17 out which guards met those dimensional requirements from the 224
18 standard and then categorize how they appear to perform.

19 So the first two categories show that some did seem to
20 perform well, but then the majority of them were failing in
21 different types of modes, and so the ones that seem to stick out
22 the most were in offset crashes where the end of the guard is
23 often completely unsupported, and it bends forward and allows
24 underride. Others where the guard itself appears strong enough
25 but the attachment point between the guard and the trailer is

1 failing, and then if you actually have a guard that's strong
2 enough and attachments that are strong enough, the chassis of the
3 trailer can deform if that's the weak point of the system.

4 So to investigate these modes in greater detail, we
5 conducted six crash tests using three different designs, trailer
6 designs and underride guard designs, and what we found is that
7 compliance with the standards is not sufficient.

8 So here you're going to see a comparison of two guards.
9 The guard on the top exceeds the requirements by almost three
10 times while the guard on the bottom exceeds by about 60 percent.
11 And I think I need you to click on that.

12 Dr. Poland made it pretty clear that my invitation was
13 contingent on having some video. So I hope this works.

14 DR. POLAND: And I can assure you, we tested them ahead
15 of time.

16 MR. BRUMBELow: So these are full width crashes, same
17 passenger vehicle, at 35 miles an hour, and as I said, the guard
18 on the top is almost three times the minimum requirements. The
19 guard on the bottom exceeds the requirements by 60 percent.

20 This would be what we would categorize in our LTCCS
21 study as an attachment failure. The guard on the Hyundai trailer
22 is actually pretty much undeformed after the test. The fact that
23 those bolts are just sheering right in half as it's loaded by the
24 car shows that's the weak point of the system.

25 So then the next, again we have the strongest of our

1 three designs on the top, but then on the bottom, a guard that was
2 almost as strong. So about two and a half times the requirement.
3 The difference in these tests are they are offset. So 50 percent
4 of the width of the passenger vehicle is striking the guard.

5 And so what this comparison is telling us is that peak
6 strength alone isn't a good enough evaluation, that you can have a
7 guard that does well quasistatically in the evaluation as it's set
8 up, but the way that that design is carried out is not currently
9 directed by the regulation. And so the guard that's here on the
10 left does not rely on the attachment strength to achieve that peak
11 load, while the guard on the right, once the attachments are gone,
12 the strength is gone and so it's not too difficult of a design
13 problem, but it's just the standard as written and does not ensure
14 that that problem is looked at in the right way.

15 So based on these tests, based on our study, we have
16 petitioned NHTSA to reopen rulemaking and improve the standards.

17 DR. BARTH: Okay. All right. That's excellent. So
18 over to you. Okay. So we're going to go into the Tech Panel
19 questions, and the first questions will be from Investigator
20 Rayburn.

21 MR. RAYBURN: Good afternoon, Panel Members. Today my
22 questions will be mainly directed to Mr. Artimovich from the
23 Federal Highway Administration. I wanted to go back to a couple
24 of those NCHRP reports that you introduced in your opening
25 statement. NCHRP 638, the implementation guidelines for

1 guardrails and we also had another success with NCHRP 22-12(03)
2 which was an implementation guideline for bridge rails as a result
3 of a NTSB recommendation, but we do not yet have an implementation
4 guideline for Test Level 4 and Test Level 5 barriers, median
5 barriers as of yet, do we?

6 MR. ARTIMOVICH: No, that is correct. The two studies
7 you referenced, the study resulting in Report 638, did provide
8 guidance for where to place a roadside guardrail and which test
9 levels were appropriate. And as I mentioned in my opening
10 remarks, the statistical significance really didn't come into play
11 until you got to a factor as gross as functional classification.
12 The actual percentage of trucks or offset did not come into play.
13 It was really once you got to freeway as functional
14 classification, that was a good enough substitute for both truck
15 percentages and speeds, that that would warrant the use of high
16 performance level barriers, as long as you had certain minimum
17 levels of traffic volumes.

18 It was also dependent on the characteristics of the
19 terrain through which the highway ran. A flat terrain rarely
20 warrants higher test level barriers, but in rolling terrain, it's
21 fairly easy to get to the point where a roadside barrier to
22 accommodate larger vehicles would be appropriate.

23 As far as the bridge study you referenced, it was indeed
24 as a direct result of one of NTSB's recommendations, and it too
25 will look at the traffic characteristics, especially trucks, that

1 are going to be examined when selecting the appropriate design for
2 bridge railings. What the Federal Highway Administration and
3 AASHTO hope to do is through this study come up with guidance that
4 the states may use to develop their own warrants. The needs and
5 design procedures vary among the states to such a degree that we
6 don't see it appropriate that from Washington, D.C. that we impose
7 any particular minimum levels of barrier technology. However, we
8 do think it's appropriate to provide the information to the states
9 that they can use to custom suit the design and warrants to their
10 own criteria.

11 MR. RAYBURN: Thank you. Even though we don't have a
12 minimum guideline or an implementation guideline for TL 4 and TL 5
13 barriers on the interstates and national highway system, we have
14 had some major successes in preventing cross-median crashes on the
15 highways in the last decade through the use of cable barriers.
16 Can you touch on some of the cable barrier research?

17 MR. ARTIMOVICH: Certainly. Beginning about the year
18 2000, the design called high-tension cable barriers began to be
19 introduced in the United States. It was a British concept where
20 three or four cables were put into unusually high tension, so that
21 the deflection of the barrier upon impact would be not only much
22 reduced, but in the event of an impact, even though the individual
23 posts supporting the cable barrier were knocked down, there was
24 enough tension in that barrier that the cables would remain in
25 place and essentially be functional for another impact immediately

1 following. But the use of the high-tension cable barriers has
2 spread to nearly every state.

3 In fact, only one state has examined and rejected the
4 use of cable barrier systems. New Jersey tried the low-tension
5 systems. This was an older technology. They found the
6 maintenance to be too intensive, and they replaced those low-
7 tension cable barriers with W-beam guardrail. I don't know if
8 they intend to look at the question again and consider the high-
9 tension barriers, but suffice it to say that at least 49 states
10 use the high-tension cable barriers today.

11 There are also some of the designs of these high-tension
12 barriers with wider spacing of these cables, not only lower to the
13 ground but taller to the top barrier that can redirect the test
14 level for a box truck. The problem here is that many of the
15 medians in which you might want to apply a barrier like this have
16 such relatively steep slopes that the truck may very well roll
17 over once it contacts that barrier.

18 So researchers of the Midwest Roadside Safety Facility
19 have developed a generic high-tension four-cable barrier system of
20 this type. It has been successfully tested with passenger
21 vehicles and their next step would be to look at the high
22 performance levels for this, Test Level 4 for example.

23 MR. RAYBURN: Thank you. One more question. With
24 respect to heavy vehicle barrier performance, what do you expect
25 as far as challenges and successes in the future?

1 MR. ARTIMOVICH: The Federal Highway Administration is
2 currently looking at its interstate policy, a number of factors
3 dealing with anything from use of right-of-way to the design
4 factors that go into the interstate system. One of the factors
5 they're going to be looking at for a nationwide standard is the
6 use of higher performance level barriers.

7 For the roadside, that's not going to be too difficult
8 since most of the interstate footprint, should I say, is
9 relatively narrow, but when you get to the medians, the median
10 widths vary significantly. Of course, in urban areas, an
11 interstate median can be so narrow as to make a concrete barrier
12 quite effective. In rural areas, the medians can be extremely
13 wide and because of the slopes in those medians that I mentioned
14 earlier, it's rather difficult to install any sort of barrier that
15 would be able to capture and redirect a higher center of gravity
16 vehicle such as a tractor trailer or even a Test Level 4 box
17 truck.

18 MR. RAYBURN: Thank you very much.

19 Dr. Barth, I'll pass it back to you.

20 DR. BARTH: Okay. I just had a real quick question.
21 When you showed the different level of barriers in your
22 presentation, the TL 5 and TL 6 barriers, the ones that had the
23 very high walls, I think you mentioned that the TL 6, it would
24 only be feasible for a few of those in the whole nation. So TL 5
25 or TL 6, what percentage of total barrier or how much are those

1 used currently?

2 MR. ARTIMOVICH: They're not used very much around the
3 country. As you know, Test Level 6, which was specifically
4 designed for tanker trailers has only been used in about four
5 locations, one of which is in Cumberland, Maryland, not too far
6 away, and used where absolutely, positively must prevent anything
7 from going over the barrier. It was designed and tested as a
8 bridge railing but can be used as a roadside barrier.

9 The great majority of bridge railings being constructed
10 these days are Test Level 4, and that is essentially because the
11 32 inch Jersey shape met that criteria. Test Level 5 is not being
12 implemented to any great degree yet. A few states have used that
13 in urban areas, where they have had incidences of vehicles going
14 over the barriers, but I'm not aware of any state standards that
15 incorporate Test Level 5 or 6 as a routine design criteria. It is
16 always used on a case-by-case basis.

17 DR. BARTH: Okay. My next question is for Indiana
18 Mills. I was wondering, how many motor coaches are currently
19 equipped with the safeguard lap/shoulder belt system and how many
20 passengers does that affect?

21 MR. JOHNSON: Just over 400 coaches are on our highways
22 today with the new safeguard system, and that's providing an
23 opportunity for just over 20,000 passengers to buckle up.

24 DR. BARTH: And what kind of metrics do you have like to
25 measure the efficacy of those systems?

1 MR. JOHNSON: Well, fortunately we haven't had any
2 crashes yet in these 400 vehicles but, you know, the metrics that
3 we used to validate the system is all we have today, and that is
4 we understood the baseline of safety, the seats that did not
5 exhibit compartmentalization. We added a measurable form of
6 compartmentalization as defined in FMVSS 222 for the yellow school
7 bus, included that in the recliner, included the lap and shoulder
8 belts and were able to take head injuries from the 900 to 1300
9 range down to 2 to 300 range.

10 DR. BARTH: Okay. And then I have a question for Volvo,
11 similar. I think you said the airbags -- are they a standard
12 feature on the Volvo trucks? And again, kind of give me an idea,
13 is that for the driver and the passenger or just the driver's
14 seat?

15 MR. LaFON: It's standard for the driver. We do not
16 have a passenger side airbag. We introduced the airbag back with
17 our -- product in 1996. We have roughly 80 percent of our product
18 out there that's been manufactured since then with an airbag. We
19 do have a delete option. Roughly more than 200,000 vehicles with
20 airbags.

21 DR. BARTH: Okay. I think I'm going to pass the
22 questions over to Dr. Poland.

23 DR. POLAND: Thank you.

24 Mr. Molino, what was the most controversial aspect
25 concerning the NPRM on motorcoach lap/shoulder belts?

1 MR. MOLINO: Thanks. I don't know that we'd describe
2 any of the comments as particularly controversial or non-
3 controversial. We got well over 100 comments. We're going
4 through all those comments. We will address all those comments.
5 We'll consider all those comments and, you know, roll that into
6 the final rule to the extent that we can.

7 DR. POLAND: There was a recent report out from FMCSA
8 that was talking about the increased use of restraint systems for
9 commercial drivers of both buses and trucks, and it looks like
10 there's a considerable increase from 2007 until 2010. This
11 question is generally for the panel. Do you know what is driving
12 that increased usage rate from approximately 65 percent in 2007 up
13 to about 78 percent in 2010?

14 MR. LaFON: Yeah, I guess my position on that or my
15 opinion is it's the outreach programs as have been sent out by
16 Federal Motor Carrier and NHTSA.

17 MR. JOHNSON: And I would definitely agree. It's
18 education. You know, seatbelts have been available now for 20
19 years. Primary laws, again if you look at what the data tells us
20 is that in states where you have primary laws, it affects the use
21 in heavy trucks, in buses as well. So it's education. It's the
22 outreach programs. IMMI runs a click, tug and snug. We've worked
23 in conjunction with several of the administrative offices to try
24 to reach out and talk about the importance of seatbelts. When we
25 talk to drivers, they understand it's important. So it's been a

1 20 year collaboration with the industry to get usage that high.

2 DR. POLAND: I hope the trend continues because if you
3 keep on that rate, they'll be at 100 percent pretty soon.

4 Is there anything that can be gained from that
5 information on getting the commercial drivers to be belted, to
6 encourage the passengers of motor coaches to also use the belts
7 once they become available?

8 MR. JOHNSON: Absolutely. I think it's just a matter of
9 time. When we look at usage today and our studies are informal,
10 but usage is probably in the 25 to 30 percent range, and a lot of
11 it depends on demographics. A lot of it depends on the type of
12 bus. Interestingly enough, you see usage in the vehicles with the
13 latch systems for infant and child carriers. So you see the
14 trends there start to develop and the fact that younger mothers
15 understand the importance. Lap/shoulder belts have not been
16 available until recently in motor coaches, and I think as that
17 availability and that comfort or the knowledge that they're there,
18 over a period of time, is embedded in passengers, you'll see usage
19 increase.

20 DR. POLAND: Dr. Barth.

21 DR. BARTH: Okay. I had a question that I wanted to
22 direct towards Mr. Brumbelow. You mentioned in your presentation
23 that straight trucks are exempt from the underride barriers. Do
24 you see that as an issue, and why is that exemption in place?

25 MR. BRUMBELLOW: We do see it as an issue in our study of

1 the LTCCS. Over half of the trucks that were involved in the rear
2 end crashes were actually exempt from the standard and it was
3 either the largest or second largest category of exempt trucks
4 were straight trucks. As to why it's written into the standard, I
5 don't think I'm the appropriate person to ask.

6 DR. BARTH: Okay. Let's see. Does anybody else want to
7 make -- I don't know if -- I don't think we have -- Mr. Molino, if
8 you want to make a comment on that or is that --

9 MR. MOLINO: I'm not intimately familiar with the
10 historic aspects of the underide standard. So I better not
11 guess.

12 DR. BARTH: Right. Okay. No problem.

13 MR. BRUMBELow: I do know there was a concern with the
14 cost benefits for straight trucks, in that while straight trucks
15 are a bigger percentage of the fleet, they're not involved in most
16 of the crashes. That doesn't seem to line up with what we found
17 in our study.

18 DR. BARTH: Okay. Thank you.

19 I had a question for Volvo, and I was wondering, I
20 noticed in the video with the airbag, you could see that the angle
21 of the steering wheel for the trucks is quite different than a car
22 and so the presentation of the airbag relative to the occupant is
23 quite different. Can you describe the design parameters or, you
24 know, what you're going for with the airbag and how that is
25 different from what we all -- I think we're all familiar with

1 airbags in automobiles. Can you comment on that?

2 MR. LaFON: Are you talking about the relative position
3 of the airbag in regards to the steering wheel or are you talking
4 about how it's deployed?

5 DR. BARTH: Well, I think most of us when we see airbags
6 in car videos, it looks like the airbag is interacting with the
7 chest and the head together. In those videos, because of the
8 angle, the steering wheel was a lot more vertical, it looked like
9 maybe the airbag was designed more as a head or a face bag per se
10 with less interaction with the chest. And so I was just curious
11 about the difference between the designs. Like what kinds of
12 things you were going for when you have to design an airbag for a
13 truck rather than a car.

14 MR. LaFON: Okay. Well, first of all, a truck, if you
15 look at a seat, it's quite different than a car. You've got an
16 air suspension seat. We are going directly for protecting the
17 head, not for protecting the chest per se, but again it's quite
18 different. You have an air suspension seat. You ride higher and
19 so forth. So that was the reasoning behind it.

20 DR. BARTH: Okay. All right. So with that, I'd like to
21 conclude the Tech Panel questions and I'll have Member Sumwalt go
22 with the party questions.

23 CHAIRMAN SUMWALT: Great. We'll do just that. And, you
24 know, we found the videos very compelling, and so we've checked
25 with our tech folks, and they have the capabilities to upload

1 these on the web, and I'll tell you what. I suspect some of you
2 may have proprietary concerns. So if you do, just tell Dr. Molloy
3 seated back there with the headphones on at the conclusion of the
4 panel if there are proprietary concerns, and if so, we'll
5 certainly respect those, but those again were very compelling
6 videos.

7 So to the parties now, and I believe that the union
8 table and the driver associations, it's your turn to go first. So
9 go right ahead.

10 MR. SPENCER: This is from UTU to Mr. Molino.

11 In your presentation, you said window integrity may be
12 addressed in the future with the S453 Motorcoach Enhanced Safety
13 Act requiring improved window glazing. Does that change your
14 urgency to address this issue?

15 MR. MOLINO: Well, we've got an extensive program going
16 on now, a research program with respect to window integrity. So
17 that's in the works, and we think we'll have an agency decision on
18 that this year in terms of what our next actions will be based on
19 those test results. So that is the current status of that
20 activity in our motorcoach action plan.

21 MR. SPENCER: This is from OOIDA, and it's for Mr. LaFon
22 and perhaps Mr. Molino with NHTSA.

23 In Europe, all trucks are required to pass
24 crashworthiness standards. Do the models offered in the U.S. pass
25 those tests, the Volvo models specifically? And, are they

1 sufficient to keep a belted driver from dying in a rollover
2 accident?

3 MR. LaFON: Yes, we do meet Swedish impact tests which
4 we believe is more stringent than the requirement. There has been
5 work done relative to harmonization. I don't have all the detail
6 on that, but we do, of course, test to rollover standards.

7 MR. SPENCER: From Women in Trucking, one complaint we
8 get from our female drivers is the issue of some shoulder
9 restraints that do not accommodate a woman's anatomy well. Have
10 you made provisions in your trucks to address this concern? And
11 this was for you, too, Mr. LaFon.

12 MR. LaFON: We make provisions according to the
13 requirements to meet the 5th and 95th percentile, and that's what
14 we design to. We do try to accommodate, of course, smaller and
15 larger folks.

16 MR. SPENCER: And from UTU to Mr. LaFon. You're
17 popular.

18 You said part of your focus is on a drowsy driver. What
19 insight can you share with us on fatigue management?

20 MR. LaFON: I'm really not per se the expert on fatigue
21 management other than we recognize the need to provide assistance
22 to the drivers. I mean obviously you have drivers out there
23 operating many hours, sitting in a truck and operating. So we do
24 recognize the advantage of having such systems and therefore, you
25 know, in the spirit of safety, we are implementing those.

1 MR. SPENCER: And one more for Mr. Molino and I think
2 this will also be of interest to Mr. Brumbelow.

3 Prior to 1982, most semi-trailer lengths were 45 feet or
4 less, with the trailer tandems at the very rear of the trailer.
5 So if a car ran into the back of a trailer, the car would hit not
6 only the DOT bumper, but the trailer tandems as well. That pretty
7 much eliminated most kinds of accidents like those you showed on
8 your films. What changed the configuration where the trailer
9 tandems are way up under the trailer now are state kingpin laws
10 that basically won't allow those trailer tandems to be farther
11 back. Has anyone considered an approach, simply talking to states
12 about doing away with those kingpin laws where those trailer
13 tandems could be back under there and keeping a car from running
14 underneath trailers like they do?

15 MR. MOLINO: If that question's for me, I'm not aware of
16 NHTSA going to the states on that issue or activity the agency's
17 had on that issue. I just wanted to, on the underride issue in
18 general, just mention that the agency does right now have a
19 research program ongoing to look at this issue more extensively
20 through the UMTRI TIFA, trucks in fatal accidents data, to get a
21 more extensive view of the problem and we're looking at 2008 data,
22 all the fatalities of vehicles that struck the back of a truck and
23 that's sort of ongoing. We have a preliminary report that we're
24 reviewing, and when that's published, that will be made public
25 when it is approved. And a follow on to that, we will also look

1 at 2009 data after that.

2 So the agency is looking into this issue and trying to
3 get a more thorough assessment of the field data.

4 MR. SPENCER: I would certainly hope the agency and
5 others involved would certainly have the awareness to understand
6 this isn't just a single fix thing. Obviously just how much steel
7 and how strong the steel needs to be on the back of the trailer
8 really seems kind of odd when it's -- why would we not also
9 equally look at design standards for automobiles, so they don't
10 crush when things like this happen. You know, obviously these
11 kinds of accidents are clearly not going to be the fault of the
12 commercial vehicle operator, but obviously the cost of remedying
13 these accidents is being put on the commercial vehicle operator
14 and I also should point out with interest actually, you know, this
15 panel and some others have talked about how much they would like
16 to limit the speeds of trucks, so trucks go slower, which
17 increases the likelihood of these very kinds of accidents where
18 automobiles run into trailers.

19 CHAIRMAN SUMWALT: Todd, you've got to put a question
20 mark at the end of that now.

21 MR. SPENCER: I asked they if they were going to
22 consider it.

23 CHAIRMAN SUMWALT: Okay.

24 MR. BRUMBELOW: I'll try to answer the question that was
25 in there. Wheels-back trailers are actually one of the exemptions

1 right now. If the trailer has the rear axle fixed and the tires
2 are within a foot of the rear of the trailer, then no guard is
3 required and that actually was a common kind of trailer that's
4 still produced underride. And so, just off the top of my head, I
5 think two of the problems were there's still a large gap between
6 the wheels at the back of the trailer relative to the width of a
7 passenger vehicle. So it's not the same as having protection that
8 extends across the width of the trailer.

9 The second problem was that a lot of these trailers are
10 still moving, and there's multiple cases where hitting the back of
11 a moving wheel actually lifted the passenger vehicle up and tried
12 to extrude it between the trailer and the top of the wheels. So
13 we don't think that wheels alone are a valid underride solution.

14 MR. SPENCER: That's all our questions.

15 CHAIRMAN SUMWALT: Thank you very much.

16 Now to the state governments.

17 MR. KEPPLER: Thank you, Mr. Chairman. The first
18 question is for Mr. Johnson and Mr. LaFon.

19 I think in Mr. Johnson's presentation, you indicated the
20 78 percent compliance rate with safety belts, and obviously both
21 of you gentlemen are working very hard on this. What do you
22 believe are things that we need to do to get the remaining 22
23 percent to buckle up?

24 MR. JOHNSON: Well, I think again safety is a journey,
25 not really a destination, and part of that journey is continue to

1 educate, continue to communicate, continue to look for comfort.
2 We know comfort and convenience drive usage. There's no question.
3 And so we need to continue to pursue components that allow better
4 comfort and encourage usage.

5 MR. LaFON: Yeah, I'm glad I'm given the opportunity to
6 answer that question because when I responded earlier I said, of
7 course, NHTSA and Federal Motor Carrier have done a lot of good
8 things, but also in all due respect, we have to give the carriers
9 a lot of credit, too. They are working hard to also make sure
10 that the drivers wear their seatbelts.

11 I wanted to end with a story. Unfortunately I ran out
12 of time. I was asked by one of our carriers last year to come out
13 and visit. They had a fatality. The first one ever for the
14 carrier. The carrier had been in business many, many years. I
15 went out, hired a third party investigator to go out with me, and
16 IMMI also actually flew in and we went and looked at the vehicle
17 to make sure. They were very concerned about the maintenance of
18 the vehicle and so forth, and asked us to come out and make sure
19 they wasn't doing anything wrong. Had a very good safety program.
20 Obviously looking at the vehicle, it was very well maintained.

21 If you looked at the vehicle, you would say, well,
22 there's no way that a person should have died in that accident.
23 It was a rollover. The cab was not crushed. It was barely
24 damaged on the side. The fellow died unfortunately because he did
25 not have his seatbelt on. The family there, lost a loved one,

1 husband, father. It's very sad to see that but I think personally
2 it starts with education.

3 I've been working with my sons to make sure, I have
4 teenage sons, and I've been making sure that they understand that
5 you've got to wear your seatbelt, and it's sort of like soccer.
6 You used to not see much soccer around, but now you see a lot of
7 soccer games on Saturdays and Sundays. It's a cultural change,
8 and I think it's important to start, you know, with us. It's an
9 individual decision that must be made when you get in a vehicle.

10 MR. KEPPLER: Thank you.

11 The next question is again for Mr. LaFon, Mr. Johnson,
12 and also this is for Mr. Molino. Mr. Molino, you particularly
13 talked about the window integrity work that you're doing on motor
14 coaches, but many drivers that are killed in crashes in trucks are
15 ejected from the truck, a good portion of them actually, and many
16 of them, it's because they're not belted. Are your organizations
17 looking into this issue further and looking at solutions to help
18 minimize this ejection problem?

19 MR. MOLINO: The integrity program I discussed is on
20 motor coaches. I assume your question is on trucks, heavy trucks.

21 MR. KEPPLER: Yes.

22 MR. MOLINO: Seatbelts are the most effective way to
23 prevent ejections. We don't have any activities, ongoing on heavy
24 trucks related to glazing, window integrity, that I'm aware of.

25 MR. LaFON: Was that question for me also?

1 MR. KEPPLER: Yes, sir.

2 MR. LaFON: Okay. Yeah, I mean simply put, we have
3 effective systems. You just have to use it. It's in there. It
4 will keep you from being ejected. It just must be used. One
5 thing we're doing at Volvo again is we have a seatbelt reminder
6 now that if the vehicle is in operation over 15 miles an hour, it
7 continuously gives you an audible and visual signal, and also I
8 don't know if you saw it from the video, we like to be able to
9 kick out the window after you have an accident so that you can
10 escape if need be. So there's really no work we're doing
11 currently on glazing per se, but I think that the systems that we
12 have in there are very effective. They just need to be used.

13 MR. KEPPLER: Thank you.

14 Next question, this is for Mr. Artimovich. In your
15 presentation, you talked about the barrier systems in terms of
16 designing, but one of the things that continues to come up is
17 questions on the entire design manual for AASHTO and Federal
18 Highway Design Standards, and their accounting for larger
19 vehicles, trucks and buses, for things like stopping sight
20 distance and roadway curvature and ramp elevations. Is that
21 something that Federal Highway and AASHTO is looking into further
22 to ensure that all types of vehicles are being accounted for in
23 highway design?

24 MR. ARTIMOVICH: Well, I'm not familiar with the
25 research that is being done for heavy trucks outside of the

1 roadside area, but I do know that the Federal Highway
2 Administration has emphasized the need for the states to consider
3 heavy vehicles in the design of highways. The AASHTO Green Book,
4 which is the policy on geometric design has a significant amount
5 of information on the proper design of highways for trucks.

6 As far as the other areas, that is a state decision at
7 the time, and I'm not aware of further research that's underway.

8 MR. KEPPLER: Okay. Thank you.

9 Last question again for Mr. Artimovich. Are you aware
10 of any work going on within Federal Highway AASHTO with regard to
11 portable barriers particularly for areas such as work zones?

12 MR. ARTIMOVICH: Yes, there has been a significant
13 amount of work done on the testing and design of portable
14 barriers, particularly the concrete barriers. Unfortunately,
15 because of their inherent instability, the design is limited to
16 passenger vehicles, Test Level 3 which we described earlier as
17 being suitable for a pickup truck.

18 The National Transportation Safety Board recommendation
19 of a number of years ago, based on a crash in Connecticut, asked
20 us to looking into the question of portable barriers for trucks.
21 We did, and we found out that it was fairly impracticable because
22 of, as I said, the instability of barriers and the need for a firm
23 foundation or anchorage for those temporary barriers, and such an
24 anchorage is just not possible in many work zones where the need
25 for barriers sometimes are placed off of the pavement and onto soil

1 or the natural terrain.

2 MR. KEPPLER: Thank you, Mr. Chairman. That's all our
3 questions.

4 CHAIRMAN SUMWALT: Thank you very much.

5 Now to the industry table.

6 MR. BLUBAUGH: The first question is for Mr. Johnson,
7 and it's from the United Motorcoach Association. When wearing a
8 three-point seat belt, is a motorcoach passenger completely
9 protected from ejection?

10 MR. JOHNSON: Well, from the standpoint of the actual --
11 the answer is no. There are types of accidents that could open or
12 compromise the structure of motor coach that you look at, and with
13 that, with the structure compromised, you could have a seat pull
14 out, but what we've done in conjunction with Greyhound and some of
15 the motorcoach OEMs is develop a system that passes 210, and 210
16 provides for a large factor of safety to keep the seat attached to
17 the structure. So in all but the most unsurvivable accidents,
18 it's going to keep people from being ejected.

19 MR. BLUBAUGH: Thank you. The next question is for
20 Mr. LaFon from the American Trucking Associations. Do you believe
21 the trucking industry would benefit from truck cab crashworthiness
22 standards similar to those we have for passenger vehicles?

23 MR. LaFON: Yes, I do.

24 MR. BLUBAUGH: Thank you.

25 MR. LaFON: And we're working together on harmonizing

1 that standard also.

2 MR. BLUBAUGH: Okay. The next question is for
3 Mr. Molino, from the Truck Manufacturers Association.

4 You mentioned event data recorders. What are NHTSA's
5 plans for event data recorders for heavy duty vehicles?

6 MR. MOLINO: The agency worked closely with the SAE in
7 development of their heavy vehicle EDR standard, which was
8 published last year, and we've had an internal activity and
9 working towards a decision on whether or not we are going to
10 regulate in that area, and we hope to make a decision this year on
11 whether or not we're going to do that.

12 MR. BLUBAUGH: Thank you.

13 This question is for any panel member from the American
14 Trucking Associations.

15 Do you believe it would be beneficial to require safety
16 belts in trucks be of contrasting bright colors to aid detection
17 and enforcement?

18 MR. LaFON: I guess that's me. I can say that we
19 already offer different color seatbelts. It probably doesn't work
20 too good for me because I'm color blind, but anyway, I can see the
21 benefit in that, and some of our carriers do require that we
22 provide that. I'm sure other manufacturers also provide something
23 very similar.

24 MR. JOHNSON: Yeah, we supply about 90 percent of the
25 North American heavy truck market with the seatbelts. We offer

1 bright colors, neon green, orange. There's a yellow, four or five
2 very bright colors. It's driven by the carriers. They like to be
3 able to see the belts as drivers pull in and out of the gates, and
4 absolutely, I think it's part of the education. I think it's part
5 of the reminder that not only seatbelt usage a good idea, but some
6 carriers require it.

7 MR. BLUBAUGH: Okay. Thank you.

8 The next question is for Mr. LaFon from the Truck
9 Manufacturers Association.

10 You mentioned that Volvo sold 200,000, I think I have
11 that right, trucks with airbags. Can you tell us how many airbags
12 have deployed of those 200,000? Do you know?

13 MR. LaFON: No, I can't. Unfortunately I don't have
14 that information but I can say that in most cases, you won't have
15 a deployment unless you get to where the damage gets back to the
16 cab. We do not want it deploying too quick for obviously reasons.
17 We want the driver to continue to be able to control the vehicle.
18 So what I typically say when I'm asked, because I get questioned
19 from time to time, why didn't my airbag deploy? Well, the reason
20 it didn't is because it didn't need to. Basically the damage
21 never got back to the occupant compartment.

22 MR. BLUBAUGH: Thank you.

23 The next question is for Mr. Johnson from the Truck
24 Manufacturers Association.

25 How many RollTek systems are currently in service in

1 heavy duty commercial vehicles? And, could you comment on
2 deployments or the results of those deployments?

3 MR. JOHNSON: Absolutely. RollTek, let's start where
4 our advanced RollTek protection is available. It's available with
5 2 truck manufacturers now and 10 custom fire apparatus
6 manufacturers. The take rate in our commercial apparatus is about
7 33 percent. So roughly 1,000 to 1200 a year are included in, I'm
8 sorry, custom fire apparatus. The take rate has been much slower.
9 It's only been available for a couple of years in the Freightliner
10 Cascade, the Peterbilt 387, but what we're seeing is a very high
11 take rate on high center of gravity vehicles, in logging, in
12 concrete, in oil. Those are examples of where fleets and tankers,
13 the Praxairs, the Hendrickson's, the BJ Services, Schlumber Jay
14 Oil, recognize the dangers of rollovers. They've experienced them
15 and are ordering that product.

16 So the total number in the field, probably 10,000.
17 Deployments, absolutely. We've had deployments in California.
18 We've had deployments in Virginia, Arizona, in different types of
19 vehicles. In each and every case, RollTek has been deployed
20 successfully and in each and every case, the driver walked away or
21 passengers. In fire trucks, it's in many positions in the cab.

22 MR. BLUBAUGH: Good. Good to hear. Thank you.

23 The last question I have, unless may panel members come
24 up with a few more, is for Mr. LaFon, from TMA.

25 What types of occupant restraints are there for

1 passengers in the sleeper berth?

2 MR. LaFON: Yes, we provide a restraint system for the
3 occupant. It's tested to Federal Motor Carrier requirements which
4 are basically a 6,000 pound pull test, but in all of our sleeper
5 cabs, there is restraints and, Tim, you're picking on me too much.

6 MR. BLUBAUGH: I'm done. Thank you. That's all our
7 questions.

8 CHAIRMAN SUMWALT: Great. Thanks.

9 Now to the federal government table.

10 MS. EVANS: I'm Monique Evans with the Federal Highway
11 Administration. The first question is from GAO to Mr. Brumbelow.
12 You mentioned that IIHS has petitioned NHTSA to reopen rulemaking
13 and reexamine the 223 and 224 standards. Has IIHS petitioned
14 NHTSA to reexamine standards in the past? And if so, what was the
15 outcome?

16 MR. BRUMBELOW: I know there are many cases where we
17 have. In fact, just in the override realm, this isn't the first
18 time that we've gone down this path. So I think the outcome, it's
19 just across the board. Sometimes they'll come back and ask for
20 more information, which we try to provide. Sometimes it's turned
21 down, and then in other cases, it is incorporated eventually into
22 a rule.

23 MS. EVANS: Okay. Thank you.

24 The next question is also for Mr. Brumbelow from NHTSA.
25 Beyond improvements in the NHTSA standards, has IIHS

1 looked into the use of v-to-v, vehicle-to-vehicle technology
2 between passenger cars and trucks as a countermeasure for reducing
3 underride crashes?

4 MR. BRUMBELOW: No, that's not something that we have
5 specifically looked at although we could fairly easily go back to
6 the LTCCS and get some kind of estimate of, you know, how many of
7 those crashes could have been prevented. But there's many
8 different scenarios that led to these crashes. In some cases,
9 it's another passenger vehicle is intruding into the lane of the
10 vehicle that ends up crashing and they go off the road and hit a
11 parked truck. So there certainly are cases where that would not
12 have eliminated the crash, but that is something that we can look
13 into.

14 MS. EVANS: For Mr. Johnson, from NHTSA.

15 Does the IMMI three-point belt system address the
16 comfort and fit issues for all size occupants using these seats?

17 MR. JOHNSON: Yes. Well, from the 5th to the 95th. The
18 requirement says outlined in 209. We certainly meet those
19 requirements. We also use a commercial grade retractor which
20 spools 88 inches of webbing. So it'll go over general dimensions,
21 maybe somebody 6'4, 260 and, of course, it will go down to fit the
22 5th percent female. We use an adjuster that allows children down
23 to 6 years old to sit in the seat because we adjust the belt down
24 to fit the child. If you think about what a booster seat does, it
25 raises the child to fit the adult belt, and so we've taken care of

1 that with some creativity. That same shoulder adjuster also
2 provides some comfort and relief for ages in between.

3 MS. EVANS: Okay. For Mr. Artimovich from GAO.

4 What kinds of testing or considerations were given to
5 the effect of high-tension cable barriers on motorcyclists who
6 might crash into these systems?

7 MR. ARTIMOVICH: We've heard a lot from motorcyclists
8 around the world. What we have found, and based on a study in
9 Britain, is that with most impacts with cable barriers, in
10 particular, and roadside barriers in general, the motorcyclist is
11 separated from the vehicle, and is sliding or rolling along the
12 pavement or the terrain, and they impact the barrier by hitting
13 the post and in most cases, the post is made of rolled steel with
14 fairly sharp edges. So that is where one would find the greatest
15 source of injuries. Very, very few crashes have we heard of where
16 the motorcyclist gets tangled up or impacts the cables themselves
17 causing serious injury. It's usually a case where the
18 motorcyclist hits the post. And for cable barriers specifically,
19 because the posts are spaced two to three times the spacing of,
20 for example, W-beam guardrail, there's a greater likelihood that
21 the rider could get under the cables and miss the post. Of
22 course, then why is the barrier there in the first place? To
23 shield against a hazard. So the motorcyclist ends up contacting
24 the hazard.

25 The obviously conclusion is that any impact with a human

1 body with a barrier is going to be bad. Cable barriers are no
2 worse than pretty much anything else.

3 MS. EVANS: Thank you.

4 And our final question for Mr. Artimovich from me, can
5 you comment on the role engineering judgment plays in the design
6 of barriers for a transportation system with such a diverse pull
7 of vehicles?

8 MR. ARTIMOVICH: That is a very good question. As you
9 noted on the slide I showed, we have test levels for barriers
10 ranging from the 30 mile an hour range for passenger cars up to 60
11 miles an hour for pickup trucks and 50 miles an hour for tractor
12 trailers. To try to select the proper barrier for use in a
13 particular roadside situation is a daunting task with the variety
14 of vehicles that are being used. The common barrier, the most
15 common in the country is the W-beam guardrail placed about 27 to
16 28 inches above the roadway. That is quite adequate for
17 redirecting most passenger vehicles, but was not designed for
18 redirecting larger vehicles such as buses and trucks.

19 Obviously a barrier can redirect a truck. You may
20 recall back to the Bronx bus crash of a few weeks ago. The NTSB
21 investigators tell me that the bus did impact the barrier and
22 impacted it a number of times before it rolled. So the barriers,
23 even under conditions like that, do have some capacity to redirect
24 a vehicle, but under the design impact conditions, for that type
25 of vehicle would be 15-degree impact. A W-beam barrier would not

1 be able to redirect a larger vehicle.

2 To accommodate the full range of vehicles that are on a
3 highway, like Interstate 95, one would have to use a taller
4 concrete barrier and as I mentioned, the concrete wall has its
5 downside for redirecting passenger vehicles. The cable barriers,
6 the steel guardrails, those deflect upon impact and absorb a
7 certain measure of the crash energy. Concrete barriers don't do
8 that. So all of the energy of the crash is absorbed by the
9 vehicle and the vehicle occupants.

10 MS. EVANS: Thank you. That concludes our question.

11 CHAIRMAN SUMWALT: Thank you.

12 And, Mr. Artimovich, I want to make sure. It seemed
13 like you faded out just a little bit when you were talking about
14 the cable barriers for motorcycles. I think you said that those
15 are no worse than any other barriers. Is that what you said?

16 MR. ARTIMOVICH: That's right.

17 CHAIRMAN SUMWALT: Okay. That's fine.

18 MR. ARTIMOVICH: Okay.

19 CHAIRMAN SUMWALT: I just wanted to make sure that I
20 heard that part. I think the key word is what I didn't hear was
21 the word no. You said they're no worse than any others.

22 MR. ARTIMOVICH: That's what I said, yes, sir.

23 CHAIRMAN SUMWALT: Thanks.

24 And we'll go to the advocacy table.

25 MR. JANSY: Thank you, Mr. Chairman. Good afternoon. A

1 couple of questions for Mr. Johnson.

2 You talked about the 400 coaches that you put your
3 compartmentalized, advanced seating system on, and I wasn't clear.
4 Did you say there was a 25 to 35 percent use rate of the seatbelt
5 on those coaches?

6 MR. JOHNSON: Yes, that is what we've observed so far.
7 Now keep in mind, with 400 coaches, we've built up to 400 coaches
8 over a year and 9 months or so. That's not enough -- I don't have
9 enough coaches in the field for a sampling rate across the country
10 that will be extremely accurate, but we plan on embarking this
11 summer on a more scientific third party survey that I think is
12 going to give us really accurate information.

13 MR. JANSY: How did you collect the data that you have
14 so far?

15 MR. JOHNSON: Observation. Observation. Talking to
16 drivers. Early in the program we had some IMMI people in the
17 field riding buses and again it's demographically influenced. If
18 you look at some of the bolt buses, you'll see usage much higher
19 than the 25 to 30 percent.

20 MR. JANSY: And could you share with us a ballpark cost
21 figure for a motor coach with these advanced seating systems?

22 MR. JOHNSON: You know, I don't set final pricing, but I
23 believe that you're looking at 10 to \$12,000 a coach premium for
24 the lap and shoulder belt with compartmentalization.

25 MR. JANSY: That's complete?

1 MR. JOHNSON: Complete with 210 structure floor,
2 lap/shoulder belts, compartmentalization.

3 MR. JANSY: Thank you.

4 Mr. Molino, the rulemaking by the agency on seatbelts
5 includes a cost benefit analysis, break even figure of 24 percent.
6 Did you include or do you plan to take any measures to somehow
7 ensure you get the 24 percent including possibly requiring IMMIC
8 seating systems?

9 MR. MOLINO: That rulemaking doesn't include anything
10 with respect to encouraging occupants to wear their seatbelts.
11 It's a rulemaking for the vehicle itself. NHTSA has activities in
12 other areas, you know, click it and ticket it and other areas
13 where we encourage seatbelt use. You know, what we would do in
14 terms of motorcoach seatbelt use if and when we publish a final
15 rule requiring it, I guess remains to be seen.

16 MR. JANSY: The agency's looking at seatbelt reminder
17 systems in passenger vehicles or at least allowing manufacturers
18 to install those. Are you doing the same for motor coaches?

19 MR. MOLINO: It's certainly not part of this rulemaking.

20 MR. JANSY: But beyond the rulemaking, there are other
21 activities on motor coach as part of the DOT 8 safety action plan.
22 In terms of crashworthiness, you mentioned structural integrity.
23 Could you share what's the timeline on the structural integrity of
24 your activities?

25 MR. MOLINO: Yeah, I believe we will be publishing an

1 NPRM this year on the structural integrity portion.

2 MR. JANSY: And you mentioned also the advanced glazing
3 portion, but beyond that, what are the other activities that you
4 have as part of that plan, and when do you think there will be
5 action on them?

6 MR. MOLINO: Well, I think I mentioned heavy vehicle
7 EDRs. That was one, and that's this year. I might have mentioned
8 one other, underride guards, which we'll have an agency decision
9 in 2012.

10 MR. JANSY: In 2012.

11 MR. MOLINO: Yes.

12 MR. JANSY: And will that be at the end of the research
13 that you're doing now?

14 MR. MOLINO: Well, certainly we'll have to have
15 completed enough research so that we'll be able to make an agency
16 decision on what the next steps would be, not that that would
17 necessarily be the end of our research.

18 MR. JANSY: Okay. And a question from Truck Safety
19 Coalition. Is there any projection for implementation of a side
20 underride guard for semi-trailers?

21 MR. MOLINO: Is this for me?

22 MR. JANSY: For you, yes.

23 MR. MOLINO: At this point, the agency is in a mode of
24 looking at field data on the impacts into the rear of trucks
25 through the UMTRI and TIFA data. So that's our focus right now to

1 get a handle on that dataset and that's what we're concentrating
2 on.

3 MR. JANSY: Okay. I have a question for Mr. Brumbelow
4 from myself.

5 It took years to get the current underride guards
6 requirements in place and promulgated, and it's been over 10 years
7 I guess now since they were issued to find out that they're not
8 working effectively. Does the IIHS plan to do further research in
9 this area?

10 MR. BRUMBELow: We are. We are planning to compare a
11 broader scope of underride guard designs that are currently being
12 produced to see just exactly what is the range of performance. So
13 based on that, on what we find, I think would direct where we go
14 next with rear underride, but your previous question, we are also
15 looking right now at cases of side underride with trailers to
16 follow up on that. There are actually more fatalities in
17 passenger vehicles that crashed into the sides of trucks than the
18 rear. That doesn't mean they're all relevant to underride, but
19 just as part of the bigger picture, we're looking at that.

20 MR. JANSY: Okay. And I hate to treat you like an
21 agency, do you know when that research is going to be done and
22 you're going to be coming out with that?

23 MR. BRUMBELow: It's waiting for me back in my office
24 but we're moving forward. I would expect within 6 months we're
25 going to have at least an internal report that we'll be trying to

1 publicize.

2 MR. JANSY: Okay. Matt, you also had one slide that
3 showed the decrease in fatalities in truck or commercial vehicle
4 fatalities and maybe injuries as well. Do you have any view on
5 the impact of the recent recession on that data and what portion
6 that played in terms of reductions in discretionary driving and
7 increases in fuel prices?

8 MR. BRUMBELOW: Yeah, that's something collectively
9 we've been scratching our heads on for a while, not just with
10 trucks, but in general passenger vehicle occupant fatalities, and
11 we can't really tease it out, but we know that there's a much
12 bigger decline that we would have otherwise expected. So the
13 recession and the other affects that have come along with that are
14 definitely playing a big role.

15 MR. JANSY: Mr. Artimovich, does your testing of Level
16 4, 5 and 6 barriers, is that based on gross vehicle weight rating
17 or on vehicle design?

18 MR. ARTIMOVICH: The criteria for testing the larger
19 vehicles is based on the weight of the vehicle. The Test Level 4
20 vehicle, the single unit truck or the box truck, is I believe
21 10,000 kilograms or 22,000 pounds. The Test Level 5 and 6
22 vehicles are 80,000 pound vehicles. Test Level 5 is the box and
23 Test Level 6 is the tanker trailer.

24 MR. JANSY: Okay. This is also my question. Have you
25 done any testing with vehicles between 80,000 and 100,000 gross

1 vehicle weight rating?

2 MR. ARTIMOVICH: No, sir, I'm fairly sure there's been
3 no testing of heavier vehicles than 80,000.

4 MR. JANSY: Would that present a more difficult problem
5 in terms of constructing a barrier?

6 MR. ARTIMOVICH: It would indeed for not only the height
7 of the barrier but the foundation and structural integrity of the
8 barrier.

9 MR. JANSY: And a final question for Mr. LaFon from the
10 Truck Safety Coalition.

11 Has there been any discussion at Volvo about whether or
12 when Volvo will make its electronic control module software
13 available so that law enforcement officers can access hard braking
14 data to help investigate truck crashes?

15 MR. LaFON: So you're talking specifically about event
16 data recording. Is that correct?

17 MR. JANSY: ECM.

18 MR. LaFON: Okay. Electronic control module.

19 MR. JANSY: Control module.

20 MR. LaFON: Okay. Because we have, of course, the
21 vehicle control modules, which are electronic control modules, the
22 engine control modules and also the braking system. We are
23 working in regards to providing information that we would
24 characterize as useful information for crash investigations per
25 se. So we're already doing some of the recording. One thing that

1 we get into issues with, of course, is privacy laws, and so forth.
2 So we have to be careful about how we manage that, but we do have
3 currently some recording capabilities that are available. We have
4 two third-party groups that extract the data for us. One is on
5 the East Coast. One is on the West Coast. They're both very
6 active in the SAE heavy vehicle event data recording let's say
7 program. So these are very good guys and we do contract that out.

8 But again, privacy, of course, is a concern. We only
9 release that information to the owners or, you know, if we're
10 subpoenaed for the information and then we can also provide it.
11 Did I answer your question or not?

12 MR. JANSY: Not really.

13 MR. LaFON: Sorry.

14 MR. BURNS: We were just wondering whether as other
15 manufacturers, you can download almost any ECM in any truck, but
16 not Volvo. I'm just wondering why you're holding that out.

17 MR. LaFON: I don't know that we're holding it out to be
18 honest with you. You're probably talking about -- are you saying
19 that there's not a universal tool where you can download certain
20 information? We do have our own tools that we offer and we make
21 available that can be purchased by, for example, our carriers and
22 also for dealers.

23 MR. JANSY: Okay. Thank you very much.

24 Thank you, Mr. Chairman. We're done.

25 CHAIRMAN SUMWALT: Thank you very much.

1 And any follow-up questions from any of the parties? If
2 so, raise your hands. You still had spare time. You gave us 3
3 minutes at the end of it but, okay, great. So we'll have you all,
4 and who else? Who else has follow-up questions?

5 Okay. Great. One set of follow up, one question from
6 the industry table.

7 MR. BLUBAUGH: This is for Mr. Johnson from the American
8 Bus Association. You mentioned the cost of equipping a motor
9 coach with seatbelts. Does that take into consideration
10 enhancements to the chassis strength? And, could you comment on
11 what impacts that might have on the vehicle gross weight rating?

12 MR. JOHNSON: Yes. The 10- to 12,000 is the premium for
13 the seats and the structure as I understand it. The seats, you
14 know, compared to a non-lap and shoulder belt seat today, the
15 seats that we demonstrated that lack the compartmentalization,
16 you're looking at 30, 35 pounds additional weight times 25. So,
17 you know, you're 7, 800 pounds heavier. So you are adding weight.
18 Adding structure to the floor, in some cases you add some weight
19 although it's mainly associated with track and additional
20 weldments. That's minimized. So, you know, you're looking at
21 your 7-, 800 pounds weight related to the seat, which needs the
22 added strength to support the lap and shoulder belt loads.

23 CHAIRMAN SUMWALT: Okay. Good.

24 No more questions from the parties, I guess. Okay.
25 We'll come back up to the Technical Panel, and Dr. Barth.

1 DR. BARTH: Okay. I wanted to ask a question that's
2 directed at the whole panel. What remains the biggest area of
3 need for either truck or bus safety as we go into the future? I'd
4 like each of you to just comment if you want.

5 MR. ARTIMOVICH: Well, from the Highway's perspective, I
6 think guidance on where high performance barriers should be
7 implemented. I mentioned some studies that have provided and are
8 providing information on that, and getting this guidance to the
9 states and getting them to develop warrants for these higher
10 performance barriers, I believe is the next great step that we can
11 look forward to.

12 MR. MOLINO: I guess I would answer that by saying
13 NHTSA's put out a priority plan and motorcoach action plan that
14 specifies what our priorities are and when we'll do each of those
15 or attempt to do those and we're in the process of doing that now,
16 and so we're working through that plan and will continue to work
17 through that plan, the priority plan and the action plan.

18 DR. BARTH: Good. Okay.

19 MR. JOHNSON: You know, as far as the biggest need, I'm
20 not sure. I don't have a crystal ball. I'm not sure I can answer
21 that. I think that as we continue to evaluate and we continue to
22 see problems, opportunities will continue to grow. Again, safety
23 is really a destination, not a journey. So, you know, I'm looking
24 forward to continuing to work with customers across the country,
25 the Volvos, the DTNAs and, you know, find out what that next need

1 is and how we're going to continue to reduce those numbers of
2 fatalities and injuries.

3 MR. LaFON: Yeah, from my perspective, from a truck
4 manufacturing perspective, the work that's being done currently by
5 NHTSA and industry in regards to improved braking standards, looks
6 to me like it's going to be very beneficial. We're looking at
7 basically 100 feet reduction from I think 65 miles per hour,
8 please correct me if I'm wrong, but --

9 MR. BLUBAUGH: Sixty.

10 MR. LaFON: -- 60 miles an hour. Thank you, Tim.

11 So, but anyway, that's going to, of course, be very
12 beneficial. You can stop the truck in a shorter distance. So I
13 see that as a very good initiative. Additionally, with the
14 electronic stability control system that's also being worked on,
15 with industry and NHTSA, that's to me very beneficial and will be
16 very beneficial to traffic safety. I guess that's all I have.

17 MR. BRUMBELOW: And I'd really have to restrict it to
18 just crashworthiness, where my research has been focused and
19 specifically just incompatibility between trucks and passenger
20 vehicles and I would just like to point out here that the
21 passenger vehicle fleet has come a long way even since 1998, when
22 the underride standards were issued. And so at that time, there
23 was a concern even about having guards that were too stiff, that
24 passenger vehicle structures wouldn't be able to absorb the energy
25 of a crash. You would need the guard to do some of that work for

1 you. That doesn't look like it's the case now. We have very
2 efficient passenger vehicle structural designs, and so moving
3 forward, I think just trying to take advantage of those
4 improvements is real important.

5 DR. BARTH: Okay. Great. Thank you, everyone, those
6 were good responses.

7 I had a real quick question for Mr. Brumbelow, and then
8 I'm going to pass it over to Dr. Poland who I know has another
9 question.

10 With regards to what you just said about the underride
11 guards, you said in the presentation that they failed at the
12 mounting points. If they were to just, you know, improve the
13 bolts and the structural mounting, would that just, from what
14 you've seen of the designs that are out there, would that just
15 transfer the failure mode to the support structure underneath or
16 would improving the mounting bolts and things be sufficient to
17 greatly increase the benefit?

18 MR. BRUMBELLOW: Yeah, that's a good question, and,
19 unfortunately, have no way of knowing for sure when we're looking
20 at these crashes, we're seeing where the weakest link is, but if
21 you address that, we don't know where the next weakest point will
22 be, but I would say just generally, like what I said before is
23 that this isn't a very difficult design problem. So if a trailer
24 manufacturer has gone into the process trying to come up with an
25 intelligent design, like the Wabash design that we saw, they're

1 looking at attachments, they're reinforcing the chassis of the
2 trailer. They're going above and beyond what the standard
3 requires. So you're raising a good point though. You need to
4 make sure the whole system works together.

5 DR. BARTH: Right. Okay. So with that, we'll go back
6 to Dr. Poland.

7 DR. POLAND: Mr. Brumbelow, is the Insurance Institute
8 planning on looking at the front of the truck in terms of
9 aggressivity or underride protection for the front of trucks as
10 well?

11 MR. BRUMBELLOW: You know, likely we will. We haven't
12 gotten to that bridge yet, but we've started with the rear even
13 though it's the least common, if you were to divide rear, side and
14 front, because there is regulation there already and we wanted to
15 see if this regulation working. We move to side because you have
16 a simpler, potentially a simpler problem to correct.

17 When you start going to the front, you now have the mass
18 and incompatibility, which is probably not something we're ever
19 going to solve. So we were just trying to bite off the pieces we
20 can chew first, but if I had to guess, I think that we would
21 eventually look at the front crashes in LTCCS and try to come up
22 with an estimate of how many you could address just by having
23 compatible structure.

24 DR. POLAND: Thank you. It used to be when I would walk
25 around the areas around D.C. and L'Enfant Plaza, I would see motor

1 coaches parked all around the areas, transporting passengers to
2 come and visit D.C. Now when I walk around I see a lot of buses
3 that look more like midsize buses, but in appearance, when you go
4 on the inside of them, they appear to be motor coaches. I know
5 many of these buses aren't going to meet the requirements that
6 NHTSA has set out in its NPRM for the definition of a motor coach,
7 and may not therefore be required to have lap/shoulder belts if a
8 final rule along those lines comes into place.

9 This question is for Mr. Johnson and Mr. Molino. Have
10 you considered these other types of buses that are equipped from
11 the interior they look like motor coaches and are often operated
12 like motor coaches, but may not have a form of occupant protection
13 or may not be required to have a form of occupant protection with
14 the way we're looking at motor coaches versus other buses?

15 MR. JOHNSON: Yes, Dr. Poland. The answer is
16 absolutely. We're working with a couple of manufacturers now that
17 build the medium duty coaches and I think we commented to the
18 docket about our thoughts for lowering that weight but, you know,
19 you're talking about two different chassis designs. You're
20 talking about a body on a cutaway chassis versus the monocoque
21 chassis. Certainly through working in school bus, I'm very
22 familiar, IMMI is very familiar with the body on chassis style
23 design, and we're working with some of the medium duty coach
24 manufacturers now, the ones that recognize the fact that just
25 because it's not required on their particular GVWR doesn't mean

1 it's not the right thing to do.

2 MR. MOLINO: Certainly the agency received a lot of
3 comments on our definition of motor coach. We had the cutoff at
4 26,000 pounds, 16 or more occupants and some other physical
5 characteristics. Primarily we based this on the field data of
6 fatalities and injuries. When you do that breakpoint, as far as a
7 vehicle used as a motor coach, the fatalities were 161 fatalities
8 between 1999 and 2008 for vehicles over 26,000, and 1 fatality for
9 vehicles used as motor coaches between 10,000 and 26,000. So we
10 sort of let the data drive us to the definition.

11 DR. POLAND: Chairman Sumwalt had mentioned earlier that
12 the crash test videos of the occupants on the motor coaches would
13 be very persuasive to encourage motorcoach occupants to wear their
14 seatbelts. Is any Indiana Mills developing any sort of pre-trip
15 information that could be provided to passengers, you know, maybe
16 including a crash test video, although I'm sure it doesn't, but
17 some sort of information aside from just a placard on the seat
18 that would encourage the occupants to see the benefit of these
19 restraint systems?

20 MR. JOHNSON: Yes. With Greyhound, in conjunction with
21 Greyhound, early in our program we worked and developed posters to
22 place inside the bus stations, to talk about the new restraint
23 systems, encourage the usage. We have worked in the past,
24 particularly in the school bus side, with announcements and
25 videos. We have not worked with any of the carriers yet on videos

1 but that is a good idea, and we've done it in the past.

2 DR. POLAND: Thank you.

3 DR. BARTH: Okay. Mr. Rayburn.

4 MR. RAYBURN: I have one question for Mr. Molino. I
5 think perhaps one of the greatest advances in the history of
6 automotive safety is underway now at NHTSA. That's the technology
7 to develop the driver alcohol detection systems, the passive
8 alcohol sensors. Are there any plans to have some crossover
9 research of this technology can be deployed in trucks and buses?

10 MR. MOLINO: I really can't speak to that.

11 MR. RAYBURN: Could you get that answer for us for the
12 docket?

13 MR. MOLINO: We certainly could.

14 MR. RAYBURN: Thank you.

15 MR. MOLINO: Yep.

16 DR. BARTH: Okay. I think we're finished here. So back
17 over to Chairman Sumwalt.

18 CHAIRMAN SUMWALT: Dr. Marshall, you've sat there very
19 patiently for 2 days. Are there any questions, anything you'd
20 like to say before we wrap it up?

21 DR. MARSHALL: I have no questions.

22 CHAIRMAN SUMWALT: Thank you. Well, I guess you have to
23 listen to this raspy voice just for a few more minutes, and I had
24 all these nicely typed notes, and yet I'm going to use my
25 handwritten notes which I can't even read.

1 But, folks, the last couple of days have been really
2 incredible. We've had 7 panels, 27 panelists, 19 Parties, a lot
3 of very dedicated people coming here and, I spoke with a number of
4 reporters on Monday, and one of the reporters, when I explained
5 who all was going to be here in terms of a lot of different
6 parties, the reporter said, well, that's sort of like getting cats
7 and dogs in the same room; how are you going to deal with that?
8 And the fact is, folks, we are not cats and dogs. We are
9 dedicated safety professionals who are here for one reason, and we
10 might come at things from a different perspective, but our
11 motivation at the end of the day is I think we realize that
12 safety, good safety is good business and the lack thereof is poor
13 business.

14 So, yeah, again we may come at it from different
15 perspectives, and that's why we use a party system. It's so that
16 everybody will have the opportunity to probe those issues that are
17 important and relevant to them so that those relevant questions
18 get asked. And I really think that the Parties are the heart of
19 the hearing.

20 The panelists, thank you for your time before I forget
21 to thank this particular panel, but I think the panelists are the
22 soul but the Parties are the heart of the forum, and the reason I
23 say that is again, I think your participation is essential. Staff
24 has been working for weeks to craft what they think are the right
25 questions, but most of those questions they didn't even have a

1 chance to ask I'm sure because we did want to make sure the
2 Parties were able to participate heavily.

3 I think that the question, from sitting up here, I think
4 the questions were very good, and I want to particularly
5 congratulate you all for your time management. I remember saying
6 on Monday when we had a pre-meeting and yesterday morning, if I'm
7 having to get up here and say, hey, your time is up, something's
8 not going well. I never had to do that. The same with all the
9 panelists. You all did a great job, good material, good
10 questions, good time management.

11 Now, speaking of time management, yes, we've done a lot
12 in 2 days, and we've had long days. So obviously there's material
13 that some of you never had a chance to ask due to the structure of
14 the forum. You have had, the Parties haven't had the opportunity
15 to say this is what we feel, and so as we've said many times, we
16 do have the opportunity, and I would encourage you to take
17 advantage of the opportunity to make a party submission. That way
18 you can make the full extent of your views known. We encourage
19 you to make a party submission, and we ask that your party
20 submissions be in by June 15th. So that gives you a little over a
21 month.

22 How do you do that? Well, at the bottom of your agenda
23 here, there's a secret address here. It says
24 truckandbus@ntsb.gov. That's the address for making your party
25 submission: truckandbus@ntsb.gov. So that would be the preferred

1 method to make your submission.

2 Now, that puts it into the public docket, and it does a
3 couple of things. It makes it available for NTSB consumption so
4 that our staff can pour over your views, but it also gets it out
5 there to the public. Your submissions will be on the NTSB's
6 website under this forum. So it gives you some conspicuity, some
7 visibility of the issues that are important to you.

8 This is a little bit different than a Board meeting,
9 like we have Board meetings for accidents, but I can assure you
10 that before a Board meeting, I always read the party submissions,
11 and I value those because it gives me a different viewpoint. I
12 know what staff's told me, but the party submissions are very
13 valuable.

14 My colleague, Mark Rosekind, is in the back of the room,
15 and I'm sure that he reads submissions as well. So as we go to
16 future accident investigations, where we're drawing upon material
17 from this forum, I can assure you that not only will the staff
18 have read that, but so will my colleagues on the Board.

19 Well, let me tell you, just to repeat. What is the
20 purpose of this forum? Well, of course, we've said it's to find
21 out where we've been in the last decade but it's also give our
22 NTSB staff, our investigative staff, our researchers, a treasure
23 trove of information to draw upon for future investigations, for
24 current investigations and future investigations. So this will
25 give you all a lot to use, to draw upon.

1 The entire video proceedings will be on the NTSB's
2 website for the next 90 days, and I think you can even, if you're
3 more technologically savvy than I am, I think there's even a way
4 to download that from the web. It's on there for 90 days only
5 because of some limitation of space, bandwidth or something like
6 that, and I think yesterday's is already up. I tried to pull it
7 up on the computer, but my computer wouldn't play the video, but
8 yesterday's is already up and tomorrow today's should be up on the
9 webpage.

10 Our technical staff will be reviewing all of the
11 information exchanged at the forum and will post the written
12 transcripts on our website. That will probably, by the time our
13 Court Reporter, he'll have it back to us very shortly, but then we
14 want to send it out for technical corrections, to make sure that
15 with raspy voices and southern accents and all, all the right
16 words get on paper.

17 I do want to take a moment to recognize the hard work of
18 NTSB staff. I know that a lot of work has gone into organizing
19 this, and it just hasn't been one person. There's been a lot of
20 people that you haven't even seen this week. You started
21 preparing for this probably about 6 months ago. Would that be
22 about right?

23 Things like this just don't happen. It takes a lot of
24 work. So the technical staff who spearheaded this, in no
25 particular order, Mark Banyard, Barbara Chek, Debbie Stocker,

1 Rafael Marshall, Pete Kotowski, Gary Van Etten, James LeBerte,
2 Jana Price, Michele Beckjord, Robert Molloy, Dennis Collins,
3 Jennifer Collins, excuse me, you all are not married, Jennifer
4 Morrison, Tom Barth and Dave Rayburn, all of those from the Office
5 of Highway Safety and from our Office of Research and Engineering,
6 we have Bob Dodd, Kristin Poland, Shane Lack, and the
7 administrative support and press support, Avis Clark, Antoine
8 Downes, Rochelle Hall, Brian Dennis up in the AV booth, James
9 Matheson, Robert Turner, Keith Holloway and my special assistant,
10 Shawn Dalton.

11 To all of you, thank you for your interest and your
12 commitment to safety, to making our roadways safer. Your efforts
13 do make a difference. I thank you for that.

14 This concludes our forum. We stand adjourned.

15 (Whereupon, at 5:30 p.m., the hearing was adjourned.)

16

17

CERTIFICATE

This is to certify that the attached proceeding before the

NATIONAL TRANSPORTATION SAFETY BOARD

IN THE MATTER OF: PUBLIC FORUM ON TRUCK AND BUS SAFETY:
A DECADE OF PROGRESS

PLACE: Washington, D.C.

DATE: May 11, 2011

was held according to the record, and that this is the original,
complete, true and accurate transcript which has been compared to
the recording accomplished at the hearing.

Timothy J. Atkinson, Jr.
Official Reporter