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PUBLIC MEETING  
DEPARTMENT OF TRANSPORTATION  
VOLUNTARY SAFETY SELF-ASSESSMENT

Friday, October 20, 2017  
10:00 a.m.

US DEPARTMENT OF TRANSPORTATION  
CONFERENCE CENTER - OKLAHOMA ROOM  
1200 NEW JERSEY AVENUE SE  
WASHINGTON, D.C. 20590  
(202) 366-1845

Reported by: KeVon Congo

## A P P E A R A N C E S

1  
2 Acting Administrator Heidi King, NHTSA  
3 Nat Beuse, NHTSA  
4 Debbie Sweet, NHTSA  
5 Steve Gehring, Association of Global Automakers  
6 Ian Grossman, American Association of Motor Vehicle  
7 Administrators  
8 Brian Daugherty, Motor Equipment Manufacturers  
9 Association  
10 Dan Smith, WAYMO  
11 Anne Marie Lewis, Auto Alliance  
12 Henry Jasny, Advocates for Highway and Auto Safety  
13 David Friedman, Consumers Union, a Division of Consumer  
14 Reports  
15 Von Lindsey, Lindsey Research  
16 David Kidd, Insurance Institute for Highway Safety  
17 Kevin Vincent, Faraday Future  
18  
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## P R O C E E D I N G S

1  
2 MS. SWEET: Good morning everybody. And I  
3 appreciate that you are able to join us today. My name  
4 is Debbie Sweet so if anybody contacted me, this is the  
5 face.

6 On behalf of DOT and NHTSA we appreciate you  
7 coming in today and welcome you to our headquarters.

8 I'm going to start before we get the show on  
9 the road, just with some general housekeeping ideas.  
10 Everybody came in this morning through security. I  
11 appreciate you taking the time to do that and getting  
12 here early so that we could get started on time today.  
13 If you can keep your visitors badge that will help  
14 through security throughout the day. We do need  
15 escorts so if you need to leave the conference center  
16 we will have some escorts available for you to go  
17 there.

18 Bathrooms: if you go out this back corner,  
19 catty-corner from here are a couple of bathrooms, you  
20 don't need an escort, you are still within the  
21 conference center. So you are fine to move about from  
22 there. And again the conference room behind us is

1 available. You are free to move about the conference  
2 center without an escort.

3 In case of an emergency and we need to head of  
4 the building we can come out these doors over here,  
5 head to the left and you go back to the atrium, back  
6 this way is the main entrance to the building. And  
7 then we would come back in that entrance as well and  
8 unfortunately have go through security again. But that  
9 is only in the case of an emergency.

10 As a courtesy to the others in the room and to  
11 assist in our audio we ask that you please silence your  
12 cell phones. And any time that you are speaking please  
13 speak into the microphone so that we can get it via  
14 webcast.

15 We are webcasting today's public workshop. It  
16 is going to be available if anybody needs the link on  
17 our NHTSA website. There is an automated vehicle site  
18 specifically and you can scroll down through that and  
19 there is a public meeting section and it is billing  
20 should be available on the public meetings part of our  
21 website. So that is available as well.

22 We are going to start in a few minutes and

1 then we'll go through to 12:00 lunch time we'll take a  
2 break. You are welcome to use the cafeteria which is  
3 just in the other side of our building, that way you  
4 don't have to go through security again. If you do  
5 leave the building, there are restaurants literally  
6 every direction that you turn outside this building.  
7 So feel free.

8 We'll have -- the afternoon sessions start  
9 back up at one o'clock. A reminder that you may need to  
10 come back through security so give yourself a little  
11 bit of extra time for that.

12 Upon returning from lunch we'll go ahead and  
13 open the mikes for that afternoon session, talk about  
14 the challenges to the self-assessment, some new ideas  
15 and improvements and then we are going to open it up to  
16 approaches to public disclosure.

17 If we have extra time we'll go ahead and open  
18 the mike to other topics pertaining to the voluntary  
19 self-assessment.

20 We do have a public meeting coming up in  
21 November. So anything that pertains to other sections  
22 of our voluntary guidance 2.0 document we will request

1 that we save those comments for the November 6. But  
2 anything that has to do with voluntary safety self-  
3 assessment we do welcome remarks today in the afternoon  
4 session.

5 Afternoon remarks at the mic will be limited  
6 to five minutes. If you go beyond five minutes we will  
7 ask you to conclude your remarks and take a seat so we  
8 make sure we have time for everyone that wants to  
9 participate.

10 So again we will be doing a webcast and we  
11 will have a transcript. So that will be available as  
12 well. We will have an executive summary that we will  
13 be able to provide publicly in a couple of weeks. So  
14 that will all be coming out on our website as well.

15 So that is it for housekeeping. I'll go ahead  
16 and hand it over to Nat Beuse, our Associate  
17 Administrator for Vehicle Safety Research.

18 MR. BEUSE: Thank you, Debbie.

19 Initially I had this nice long intro planned  
20 but working in innovation I've got to be fast-changing  
21 and adopt, so this morning we actually have the  
22 opportunity to have our Acting Administrator Heidi King

1       come and open up this workshop.

2               So Heidi joined the NHTSA family about two  
3 weeks or so ago and has hit the ground running. She  
4 has lots of experience in government, lots of  
5 experience in private industry. And we are very, very  
6 blessed to kind of have her lead the agency at this  
7 time, really at a time of incredible transformation.  
8 So, I'm going to stop talking so you can hear from her.  
9 So please join me in welcoming our acting administrator  
10 Heidi King.

11               [APPLAUSE.]

12               MS. KING: Nat, thank you very much for the  
13 kind introduction. And thank you and thanks to all of  
14 the NHTSA team for all the work that has gone into  
15 developing a vision for safety.

16               Good morning everyone, it is wonderful to see  
17 you today. I really appreciate you coming to visit  
18 with us. Welcome to the headquarters of the U.S.  
19 Department of Transportation on behalf of Secretary  
20 Elaine L. Chao, on behalf of everyone at DOT, and at  
21 NHTSA and myself. I want to thank you for engaging in  
22 the process today.

1           I also want to thank each of you for giving us  
2 feedback throughout the development of 1.0 and 2.0. As  
3 you know your feedback is very, very important to us  
4 and to the process. Your time and comments today will  
5 help strengthen the recently released voluntary  
6 automated driving systems guidance.

7           As I am sure you are aware together we've  
8 embarked on a truly remarkable path. Automated driving  
9 systems offer the potential to revolutionize  
10 transportation from delivering roads that are safer,  
11 reducing traffic, reducing fuel costs, and delivering  
12 new mobility options to seniors and people with  
13 disabilities. Automated vehicles look to transform  
14 transportation.

15           At DOT and NHTSA, of course, our central focus  
16 as always is safety. Safety is number one. NHTSA's  
17 mission remains to help Americans drive, to ride, and  
18 to walk always safely. We know, we all know that 94%  
19 of all serious collisions and crashes are due to human  
20 factors. By addressing those factors we can reduce  
21 collisions. By addressing those factors we will be  
22 addressing the resulting deaths and injuries.

1           In 2016 we lost 37,461 people to motor vehicle  
2 collisions, people who our friends, our neighbors and  
3 our colleagues. Fatalities spiked by more than five  
4 percent in 2016 and that followed an eight percent  
5 increase the previous year. The ability to reverse  
6 those negative trends and dramatically improve safety  
7 is why we are focusing our work here today on automated  
8 driving systems.

9           To fulfil the promise of automated driving  
10 systems we must give our full consideration to safety  
11 and the testing and the development of these vehicles.  
12 That means rigor, that means being transparent, it  
13 means learning from one another. It means broadening  
14 public understanding, not just of these vehicles'  
15 potential benefits, but how safety is being addressed  
16 in their development and in their testing.

17           Public trust is essential to the advancement  
18 of automated technology as we all know. The 2.0  
19 guidance and the voluntary safety self-assessment are  
20 tools to build that public trust, to encourage entities  
21 to discuss safety, to discuss the importance of  
22 insuring occupant and non-occupant safety, to protect

1 the public and to increase the public's safety.

2 Our collaborative efforts with all  
3 stakeholders will move automated driving systems in the  
4 right direction. Most importantly it is advancing  
5 these technologies safely.

6 Just last week WAYMO became the first entity  
7 to describe how it is addressing its safety elements  
8 contained in the voluntary guidance. By encouraging  
9 public disclosure of the voluntary safety self-  
10 assessment we look to support the efforts of other  
11 entities who wish to release information about how they  
12 are addressing safety.

13 I understand, we all understand that this is a  
14 new and it is an innovative approach. But a technology  
15 this new and this dynamic requires an approach that is  
16 flexible, that is adaptive and that is open. Because  
17 this is a new and different approach NHTSA stands ready  
18 to help entities implement the voluntary guidance. By  
19 bringing stakeholders together today we can share and  
20 discuss different views and approaches and together we  
21 can work through the barriers to advancing the  
22 automated driving systems together.

1           In addition to today's workshop, just to make  
2   sure you all know we have an additional public  
3   listening session regarding the entire 2.0 document on  
4   November 6, here at the U.S. Department of  
5   Transportation headquarters. We hope you will once  
6   again participate and bring even more voices into the  
7   discussion.

8           Thank you again for your time and for working  
9   with us on this effort and for your comments today. We  
10   look forward to hearing your thoughts. We look forward  
11   to hearing your considerations regarding the voluntary  
12   safety self-assessment.

13           Have a great day. Thank you.

14           [APPLAUSE.]

15           MR. BEUSE: Thank you, Acting Administrator  
16   King.

17           So I think before I turn it over to Debbie to  
18   kind of level set everybody on the purpose of today's  
19   workshop I think it is worth reiterating a couple of  
20   different things.

21           Number one kind of just why this meeting and  
22   not another type of meeting. So as the Acting

1 Administrator said we are really actually focused right  
2 now on implementation. How do we implement the  
3 guidance?

4 What Secretary Chao announced in September was  
5 an important step because for a while companies didn't  
6 know, states didn't know what was going on with the  
7 guidance and so that now has been clarified. We are  
8 now at the implementation stage.

9 And already we've heard some feedback about  
10 how do we do these self-assessments, how do we make  
11 them available to the public and as the Acting  
12 Administrator mentioned WAYMO did that last week. And  
13 so this workshop really is a chance to hear not just  
14 from one entity but from other entities about their  
15 thoughts on how to make these self-assessments useful,  
16 what kind of information to put into them, and then the  
17 whole aspect of public disclosure.

18 This is not a meeting to argue about what is  
19 happening on the Hill. This is not a meeting to talk  
20 about whether things should be regulated or not  
21 regulated. So I would ask folks that are commenting to  
22 really stay focused on the task at hand which is really

1 this narrow piece of the framework and the voluntary  
2 guidance and disclosure of that.

3 The other thing to point out is really this  
4 will evolve; right. But not in the sense that we have  
5 to start from square one each time. What it means is  
6 that we will make tweaks along the way, things that  
7 need to be changed, things that need to be modified.  
8 But really this is really now we have to get on with  
9 the business of implementing this.

10 And so now I'm going to turn it over to Debbie  
11 who is going to walk through and make sure everyone who  
12 maybe didn't read the guidance actually knows what's in  
13 there and what is this thing called the voluntary self-  
14 assessment.

15 So Debbie, please.

16 MS. SWEET: All right. Thank you, Nat. And  
17 again thanks everybody for coming.

18 So I want to make sure that we set the stage  
19 for today's discussion and our focus. When we released  
20 2.0 it contained two distinct sections. The first one  
21 was for the voluntary guidance for automated driving  
22 systems or if I refer to it as ADS. And the second

1 section was for technical assistance to states.

2 Like Nat said today's discussion is going to  
3 focus solely on the voluntary guidance and the 12  
4 elements that were contained in that and a voluntary  
5 safety self-assessment or I might refer to that as a  
6 VSSA, it is a mouthful.

7 The voluntary guidance contains 12 safety  
8 elements. These are elements that experts across the  
9 industry agree with, priority safety elements when we  
10 are talking about developing and deploying and getting  
11 these vehicles out onto the roadways. The elements  
12 included in the guidance, I'm going to go through all  
13 12 of them, system safety, operational design domain,  
14 object and event detection and response, fall back for  
15 minimal risk conditions, validation methods, human  
16 machine interface, vehicle cyber security,  
17 crashworthiness, post-crash ABS behavior, data  
18 recording, consumer education and training, and  
19 federal, state and local laws. So those are the 12  
20 that we covered in the voluntary guidance that came out  
21 in September.

22 It is also important that we review the scope

1 of the guidance. The guidance and subsequently the  
2 VSSA are not limited to passenger vehicles only. So  
3 the expectation is that any vehicle or any equipment on  
4 public roads under NHTSA's jurisdiction would utilize  
5 the voluntary guidance and best practices in industry  
6 and that they consider public disclosure of the safety  
7 information through a VSSA. This includes low speed  
8 vehicles, includes motorcycles, passenger vehicles, and  
9 includes medium and heavy-duty trucks and buses among  
10 others.

11 With respect to which systems that the  
12 guidance is geared towards we're focused on SAE Levels  
13 3 through 5. Those levels in which this system is  
14 going to take over full control including monitoring of  
15 the environment. So Levels 3 to 5.

16 The guidance recommends areas of consideration  
17 and that these entities as they go about developing and  
18 testing but we also then look at the public facing side  
19 of the guidance and that is the voluntary safety self-  
20 assessment. That tool, that is the opportunity, that's  
21 the avenue by which entities can publicly offer  
22 information about how they are achieving safety and how

1 they are taking into consideration the 12 elements that  
2 we included in the voluntary guidance.

3 We know the purpose of the VSSA. We went  
4 through refinements which is what we put out in  
5 September. But we are now at the point where we want  
6 to implement this. We want to get these tools out  
7 there and, in fact, we've already begun with WAYMO's  
8 introduction of their safety report last week. And  
9 that was a month after we put out the new guidance. So  
10 we are already moving forward.

11 Receded in the guidance a few points in  
12 relation to the public disclosure of the VSSA but  
13 really we made an effort to support industry and  
14 innovation and understand that an entity has the best  
15 assessment of how they're going to increase public  
16 education, how they're going to get that information  
17 out. So we have not set prescriptive instructions on  
18 the VSSA or the public disclosure. Entities are  
19 encouraged to provide the VSSA to the public but we  
20 haven't set forth a format for presentation nor is  
21 there for the most part any desired language that we  
22 requested in writing the guidance.

1           We have recommended one statement, one direct  
2 statement addressing whether or not a safety element  
3 was considered in the product development. That is one  
4 thing that we did recommend. Inclusion of that  
5 statement though increases the clarity to the users of  
6 the VSSA. We have to think about who is tapping into  
7 this and how they are going to have access to the  
8 information as they start to understand both technology  
9 and when they consider whether or not they are going to  
10 have vehicles and equipment on their roadways in their  
11 jurisdiction.

12           So with respect to the content of the VSSA we  
13 posted a template on our website recently. That  
14 template shows one of our 12 safety elements. And we  
15 hope everybody has had a chance to look over that, it  
16 is in the resources section of our AV website. So we  
17 hope everyone got a chance to look at it before today's  
18 meeting.

19           The template sets first the premise of the  
20 automated driving system in the subject vehicle. Those  
21 vehicles and the system characteristics we would expect  
22 be discussed in the VSSA so that the users can

1 understand subsequent information and the ADS in  
2 general.

3           The template includes the types of  
4 information, I have to emphasize that, the types of  
5 information that an entity could include in the VSSA.  
6 It is not actual content. So for the safety element we  
7 used which was crashworthiness, the types of  
8 information included summaries of crash simulation  
9 scenarios, physical tests, it might include a summary  
10 of child passenger safety information. If your system  
11 is going to be intended to carry passengers under the  
12 age of 12 you might offer information about the  
13 protection and testing, discussions for non-traditional  
14 seating configurations if that's appropriate for your  
15 system. There also might be summaries of how the  
16 vehicle considers crash forces from other vehicles or  
17 infrastructure. That is just a few of the things that  
18 we listed. That is by no means a checklist. That  
19 template does not provide a checklist for saying we've  
20 done this, this, and this, we're good to go. That is  
21 not an exclusive list either. Those are just examples  
22 of the type of information that an entity might

1 consider including in their VSSA.

2 So we are not expecting this to be an  
3 exhaustive recount of every action an entity has taken  
4 to address any particular safety element. It is  
5 envisioned to contain concise information on how you  
6 utilized the guidance and how you utilized your best  
7 practices within your entity or your company or  
8 industry best practices for that applicable safety  
9 element.

10 The manner by which an entity discloses that  
11 information remains flexible as well. The one example  
12 that we have in public now is WAYMO's. We see that  
13 their choice was to put that on their website, their  
14 company website. That was their choice. There may be  
15 other options appropriate for other entities. And the  
16 user perspective that we are hoping to hear today from  
17 folks in the audience is going to be a big factor in  
18 making the determination on what is appropriate for  
19 each entity.

20 So at today's meeting we want to hear your  
21 perspectives on the template, approaches and  
22 considerations for improvement to that. We don't

1 currently have a general repository for VSSAs and we're  
2 interested to hear your input on that and if that is  
3 even necessary.

4 So with representatives from across the board  
5 with our stakeholders here today each of them is  
6 looking at the VSSA from a different angle and we are  
7 looking forward to hearing from each of those  
8 perspectives.

9 I do want to make sure everyone is aware that  
10 with the federal notice that came out for today's  
11 meeting there is an open comment period, it is a 60-day  
12 comment period. That closes on December 18. If you  
13 are interested in the Docket Number the Docket Number  
14 is NHTSA-2017-0086, again NHTSA-2017-0086. You are  
15 welcome to offer public comments in that manner as  
16 well.

17 So I'm happy with the turn out today. And  
18 based on this turn out, based on the fact that we  
19 already have information out in the public realm I  
20 think we understand and we all see the importance of  
21 this information getting out to the public.

22 And so we see the desire of the entities to

1 publish quality information that is beneficial and  
2 consumable and we see the desire of the users to find  
3 information that they can learn from and is successful  
4 to them.

5 So I want to thank you in advance for a  
6 positive and productive conversation today. And with  
7 that I'm going to go ahead and wrap up and we'll start  
8 with a couple of comments.

9 Steve, I'm going to ask Steve Gehring to come  
10 up to the table first.

11 MR. GEHRING: So Debbie would you like me to  
12 sit here.

13 MS. SWEET: Yes, please, Steve.

14 MR. BEUSE: It's very intimidating.

15 MR. GEHRING: It is.

16 MR. BEUSE: And probably for the folks on the  
17 phone, probably good, as Debbie said use the mic and  
18 have at it.

19 MR. GEHRING: Okay. Great. Well good  
20 morning. My name is Steve Gehring, Vice President of  
21 Vehicle Safety and Connected Automation at the  
22 Association of Global Automakers, a trade association

1 representing the U.S. operation of international motor  
2 vehicle manufacturers, original equipment suppliers,  
3 and technology providers. Our members are making  
4 significant investments and progress in the research  
5 and development of automated vehicles. And we  
6 appreciate the opportunity to provide comments on the  
7 updated federal AV guidance.

8           In my remarks today I will provide some  
9 initial perspectives on the vision for safety 2.0 as  
10 well as some general suggestions for building upon the  
11 guidance moving forward.

12           It is well recognized that AV systems across  
13 all levels of automation will provide significant  
14 opportunities for improving safety, efficiency and  
15 mobility. With the increase in highway fatalities it  
16 is important now more than ever that the policy  
17 environment continues to support the safe testing and  
18 deployment of innovative technology. To that end we  
19 support NHTSA's strong statements on the appropriate  
20 role of state and federal government with regard to the  
21 development of automated vehicle policy.

22           Consumer trust and confidence are critical to

1 the adoption of new technology. And we are encouraged  
2 that the administration has embraced the safety, an  
3 assurance process that provides the necessary  
4 flexibility to develop, test and deploy highly  
5 automated vehicle systems.

6 With research and data needed to understand  
7 how best to regulate the performance of AV systems we  
8 believe the federal guidance supported by NHTSA's  
9 existing authority strikes the right balance for  
10 promoting safety and innovation.

11 At the same time the process also provides an  
12 opportunity for manufacturers and other entities to  
13 demonstrate transparency to the public on how they are  
14 addressing priority safety elements identified within  
15 the guidance. Specific to each of the guidance areas  
16 we appreciate that the agency has sought to provide  
17 additional clarification to help address ambiguities  
18 within the original federal policy. We also agree with  
19 the agency's decision that while issues such as ethics,  
20 data sharing and privacy are important areas to  
21 consider as vehicles become more connected and  
22 automated these items do not necessarily apply directly

1 within the context of a safety self-assessment but  
2 should be discussed through broader stakeholder  
3 engagement separately from the guidance.

4 Our members agree that the voluntary safety  
5 self-assessment process will help support innovation  
6 and encourage open communication with the public.

7 However, we also recognize there are questions  
8 regarding specific types of information that should be  
9 included as part of such an assessment whether it be  
10 for testing or deployment. While providing a template  
11 may be useful for some companies in helping determine  
12 the level of information to provide the guidance should  
13 continue to encourage freedom for manufacturers to  
14 disclose relevant information in a format that works  
15 best for them. This is an emerging area as you well  
16 know and how manufacturers or other entities may  
17 communicate relevant safety information to the public  
18 is likely to evolve as we gather more experience and a  
19 greater understanding of consumer expectations.

20 In any case NHTSA should maintain that any  
21 supporting templates are consistent with the guidance  
22 and make clear that the agency is not dictating a

1 specific format or style for how information is  
2 presented to the public. Related to this we appreciate  
3 the guidance underscoring the importance of identifying  
4 the appropriate level of detail and transparency that  
5 can be provided without compromising confidential  
6 business information.

7           However, recognizing that the agency may at  
8 some point in the future request additional information  
9 related to a VSSA or automated vehicle design it is  
10 critical that NHTSA insure proprietary data is  
11 protected given the significant investment in new  
12 technology and the competitive nature of the industry.

13           As we continue to develop our written comments  
14 on the guidance we would like to provide the following  
15 initial recommendations for the agency to consider  
16 moving forward. Recognizing the voluntary nature of  
17 the safety self-assessment we believe there is some  
18 public benefit for the agency to develop and maintain a  
19 website that provides links for consumers and other  
20 policymakers to access the VSSAs publicly disclosed by  
21 manufacturers. To compliment the model state policy  
22 NHTSA should consider organizing a public workshop or

1 series of workshops like we are having today to convene  
2 a national discussion on the key policy issues  
3 affecting states. This would not only better align the  
4 respective role of state and federal government but  
5 would also provide a forum to insure a more uniform  
6 national approach to AV policy.

7           While the guidance provides helpful  
8 recommendations for manufacturers to consider in the  
9 development there are still a number of regulatory  
10 barriers that need to be addressed for both the testing  
11 and deployment of automated vehicles. It is critical  
12 that NHTSA continue aggressively research how best to  
13 modernize existing regulations to support deployment of  
14 these lifesaving technologies in the short term.

15           Finally, we believe it would also be helpful  
16 for the agency to consider the development of a  
17 research priority plan and share with the public to  
18 help better understand how we can avoid duplication and  
19 collectively work together to the shared goal of  
20 increased safety and mobility.

21           In conclusion we believe that it is important  
22 that we have the right process in place to assure both

1 the agency and the public that automakers are designing  
2 their systems with safety first in mind. I would like  
3 to just reiterate that we believe the agency has made a  
4 number of significant improvements to the federal  
5 guidance.

6 We appreciate the opportunity to provide  
7 remarks here today. And we look forward to continued  
8 engagement with both NHTSA and other stakeholders to  
9 insure the policy framework continues to support the  
10 testing and deployment of automated vehicles.

11 Thank you.

12 MR. BEUSE: Thank you, Mr. Gehring.

13 Couple of follow up questions. Number one,  
14 have the companies within Global discussed sort of the  
15 challenge of translating very technical information  
16 into a format that is digestible let's say to consumers  
17 while not making it sound like a marketing piece.

18 MR. GEHRING: We are in the process of  
19 discussing that and will have more information in our  
20 comments. But that will be something we are focusing  
21 on and will focus on.

22 MR. BEUSE: Great. And then in reference to

1 your comment about the either a central repository or  
2 links on a website, is the preliminary discussion  
3 around how would NHTSA know that those were there, the  
4 companies would have to tell us or what is the thinking  
5 behind how that would work?

6 MR. GEHRING: We think the agency does a very  
7 good job in canvassing what's going on out in the field  
8 and we would also expect that manufacturers and  
9 suppliers and those that are deploying AV systems would  
10 be in communication with the agency as well. I believe  
11 the guidance seeks to develop a collaborative and open  
12 up lines of communication with those and the AV space.  
13 So we think continuing to communicate with the industry  
14 will help that communication. So we would expect that  
15 various companies will be reaching out to NHTSA for  
16 discussions. And we would expect NHTSA would continue  
17 to reach out to entities within the industry to  
18 continue to understand what's being deployed.

19 MR. BEUSE: Great. Any questions?

20 MS. SWEET: No questions.

21 MR. BEUSE: I've got one more. I think one of  
22 the early iteration of comments from the one last

1       September there was a lot of comments from companies  
2       about iterative versions, you know, might need to make  
3       changes to this and update the self-assessment. Is  
4       that something also that companies within Global are  
5       discussing is the idea that there would be just one  
6       self-assessment that would just maybe bits and pieces  
7       would be updated over time or that there be kind of  
8       multiple entries for any one company or any one system  
9       or it is still being discussed?

10               MR. GEHRING: It is still being discussed. But  
11       I would say the more flexible that the guidance can  
12       remain in providing information I think it will open up  
13       areas for everyone to consider as far as what  
14       information is useful for the public, for public  
15       disclosure and what helps inform various policy makers.  
16       So I think the agency has developed a flexible process  
17       here and I would suggest that that continue and will  
18       also integrate that into our comments as well.

19               MR. BEUSE: Okay. Great.

20               MS. SWEET: I do actually have one question.  
21       Steve, you mentioned that the template is helpful for  
22       some entities that may want to look for some guidance

1 in the VSSA but that you still want the freedom. On  
2 the other hand you mentioned that it is unclear what  
3 types of information that should go into the self-  
4 assessment. So does the template assist in  
5 understanding what types of information go in even if  
6 that's not necessarily the format or design of choice  
7 for an entity. Is that beneficial to understand the  
8 types of information that might go in?

9 MR. GEHRING: Yes, I would say that a template  
10 can be useful particularly for new entrants that are  
11 coming in and deploying automated vehicle systems. But  
12 I think as was said earlier I don't think it should be  
13 viewed as necessarily a checklist since this is  
14 something that is looking to be publicly disclosed I  
15 think it is a good list for folks to consider but I  
16 wouldn't limit oneself to that and really encourage  
17 manufacturers to open up this dialogue and not limit  
18 themselves by a list or view the list as something that  
19 is being strictly required because I think that the  
20 intention here is to get the dialogue going and  
21 publicly disclose information.

22 MR. BEUSE: Yeah. I mean certainly we can

1 clear it right now. You know I think the whole point  
2 of that template and the information that is in there,  
3 as bulleted in there as Debbie mentioned is really not  
4 meant to be a checklist. And she mentioned that in her  
5 remarks. So anybody confused about that in cyber and  
6 in the room that is not what the purpose of that is.  
7 It really was a guide based on comments that we  
8 received and also our own research and talking to our  
9 engineers about well, if you were going to write  
10 something like that this is probably what people should  
11 consider. And so thank you for raising that and allow  
12 this opportunity to clear that up.

13 MR. GEHRING: And I believe your opening  
14 comments made that clear as well. So thank you.

15 MR. BEUSE: You're welcome. Thank you.

16 MS. SWEET: Thanks, Steve.

17 All right. If Ian Grossman can come to the  
18 table, I'll go ahead and set the computer up.

19 MR. BEUSE: Good morning.

20 MR. GROSSMAN: Good morning. How are you?

21 MR. BEUSE: Good, how are you?

22 MR. GROSSMAN: I'm all right.

1 MS. SWEET: If you just want to give me a nod  
2 when you want to advance a slide.

3 MR. GROSSMAN: Sure. Good morning. Ian  
4 Grossman with the American Association of Motor Vehicle  
5 Administrators. By way of quick background AAMVA is  
6 the organization that represents all the motor vehicle  
7 agencies and law enforcement agencies throughout the  
8 U.S. and Canada. In plain speak we represent the DMVs  
9 and the state police, and state police specifically on  
10 their duties as relates to on the road highway  
11 enforcement throughout North America.

12 Our members are very excited as is everyone in  
13 this room about the promise of automated vehicles and  
14 the safety promise that it holds for highway safety.  
15 States are excited to be partners in this conversation.  
16 As we know many of the DMVs are being turned to for  
17 promulgating regulations and handling that public  
18 oversight of public protection. And that's why this  
19 partnership with state government and the private  
20 sector, of course, federal government is so important.  
21 The states take individually are the laboratories for  
22 innovation and we want to support an atmosphere, an

1 environment that allows for that innovation to  
2 flourish. At the same time keeping for first and  
3 foremost are our mission to protect our citizens both  
4 as relates to highway safety matters as well as in many  
5 cases more traditional consumer protections that need  
6 to be put in place.

7           And so it is within that context, in that  
8 partnership and balancing innovation and safety that  
9 our comments today around the voluntary self-assessment  
10 is based.

11           So what I'll cover is some thoughts on the  
12 access to self-assessments, how states imagine they'll  
13 make the best use of the self-assessment and some  
14 additional information that would be of use to our  
15 jurisdictions.

16           So first on access, perhaps a theme that we'll  
17 start to hear throughout the day today is this idea of  
18 single source that an entity has published a safety  
19 assessment. We would encourage that there be a one-  
20 stop shopping clearinghouse of these safety assessments  
21 so that if a manufacturer chooses to voluntary do them  
22 they could be filed in a single place. This is really

1 important for state policy makers and state regulators  
2 to have that place where they can go to to know what  
3 has been filed and then have those links to the actual  
4 documents.

5 An enhancement on that would be the ability to  
6 notify when something has been added to that  
7 clearinghouse or it has been updated so that there are  
8 these push notifications so that states can know  
9 someone has filed a voluntary self-assessment, let me  
10 go and read what they have put out there.

11 The use by jurisdictions I think most of the  
12 bullets here are pretty consistent with how most  
13 anybody would use the assessment to know what might be  
14 wanting to be tested in their state vis a vis focus on  
15 safety. The safety and the risk that the manufacturer  
16 is putting in place, consumer education training,  
17 compliance with laws and the last piece I think is a  
18 little bit different than perhaps the traditional set  
19 of how folks are going to use the assessment. We also  
20 want to know what law enforcement and first responders  
21 may need to know when interacting with these vehicles  
22 at roadside if indeed there is unfortunately an

1 incident or an event that occurs when that first  
2 responder is on scene or law enforcement has to  
3 communicate with the vehicle how might they be trained  
4 and they be aware on how to do that.

5           So this I think is also another piece that has  
6 already been talked about early on. The idea that it  
7 is not just a checklist and that we are really looking  
8 for some in depth information in these areas. I  
9 appreciate that in your comments that clearly the  
10 intent was providing that in depth information. I  
11 think perhaps what we are hearing this morning is that  
12 maybe that could use some additional guidance and  
13 clarity so that those that are completing the self-  
14 assessment really understand the depth of information  
15 that everyone is looking for. That is something that  
16 would be very helpful to the states.

17           We would like to see that information being  
18 specific to vehicle model as opposed to only an entity  
19 that is doing a disclosure. That if an entity is  
20 manufacturing more than one model with the features  
21 that require self-assessment that the disclosures  
22 either within one disclosure be specific to models or

1 separate disclosures. We don't necessarily have a  
2 strong feeling on that method but that we at least  
3 identify and acknowledge that multiple models may be  
4 needed to be recognized differently.

5           And any summary of those test results. This  
6 is the information that when states are determining  
7 their role in regulation or writing rules it really  
8 falls in the category of the more information they know  
9 the more educated they are the better partner they can  
10 be. And so we just want to continue to encourage that  
11 type of content.

12           Number of vehicles being tested and the number  
13 of vehicles being produced. Again this goes to scope  
14 and scale whereas state is going to interact with an  
15 entity one way if they want to test three models on  
16 their roads versus if they're rolling out 300 on their  
17 roads. So really understanding the scale and scope of  
18 that is helpful for jurisdictions.

19           The training materials as I mentioned early on  
20 both as relates to first responders and law enforcement  
21 and to the general public. Appreciate your question  
22 earlier about translating that technical language is

1 something that is really helpful to consumers. State  
2 regulators very much need that same type of  
3 translation. So we would encourage that.

4 And updates on the assessment. We think that  
5 that is important. When an assessment becomes  
6 outdated, if the software or hardware upgrades are  
7 being made, if updates are being sent through an online  
8 system to the software on the road we believe that  
9 those types of junctions, that should trigger an update  
10 to that self-assessment.

11 And of course a list of the states on which  
12 the entity is testing or is considering testing and  
13 contact information. And I recognize and am sensitive  
14 to the fact that in a very public disclosure entities  
15 may not want to provide direct contact information. I  
16 will say that some states have struggled to find the  
17 right contact at different entities and if there is a  
18 way that some part of the self-assessment can create  
19 that bridge for states to build that direct  
20 relationship we would find that helpful.

21 So to continue this partnership we AAMVA and  
22 its members really want to encourage all entities

1 playing this space to provide and update the self-  
2 assessment. We recognize and appreciate that the NHTSA  
3 guidance creates it as voluntary mechanism, so anything  
4 we can do to encourage those entities to take advantage  
5 of that voluntary opportunity to file that disclosure  
6 we would very much be happy to support.

7 We also in your opening remarks, Debbie, you  
8 mentioned how it applies to all different classes of  
9 vehicles. We would like to see some guidance and  
10 clarification as it relates to after-market products  
11 that may be sold after market to add on automated  
12 features to a vehicle. And we would further say that  
13 we think that a self-assessment or a different template  
14 version of the self-assessment would be helpful in  
15 those after-market products that would then apply to  
16 those vehicles.

17 And of course continuing conversations like we  
18 are having today and that we are having next month on  
19 the docket as a whole. AAMVA has been a partner with  
20 NHTSA early on in this conversation. It has been an  
21 incredibly valuable and successful partnership and we  
22 are looking to continuing that as we go forward.

1           And we really appreciate being here today and  
2 providing the perspective of the public sector  
3 particularly state governments that are really on the  
4 front lines of regulating this innovation and  
5 protecting their citizens and providing that  
6 environment for innovation that hopefully will be a  
7 huge safety gain and drive down those fatality numbers  
8 that we all ultimately want to see as a common goal.

9           That's it.

10          MS. SWEET: Thank you, Ian.

11          MR. BEUSE: Thank you, Mr. Grossman. I  
12 actually just have maybe two minor comments. And I  
13 appreciate your TTD (ph) button, very important. So  
14 you mentioned the notification, push notifications and  
15 you mentioned somehow that there be like a central  
16 repository. So what that triggered in my mind is I  
17 know that my own instruction, we are not talking about  
18 the other section today, but in that section there was  
19 a recommendation about sort of states -- at the kind of  
20 state level versus the local jurisdiction level helping  
21 out with registration. And so my question back to you  
22 on that is is it conceivable that states would have

1 sort of a single entity or a single person or is it  
2 just sort of like people would somehow have to register  
3 themselves to get these push notifications?

4 MR. GROSSMAN: I think at the most basic level  
5 somebody from the state would register to receive those  
6 notification. There may be some states where multiple  
7 individuals are working on that and so they would need  
8 to register. And really it is about being able to be  
9 notified that something new has been added to that  
10 public clearinghouse.

11 MR. BEUSE: Yeah.

12 MR. GROSSMAN: It could be something that is  
13 of value even beyond state personnel, folks that want  
14 to be able to track this and see what's occurring to be  
15 notified.

16 MR. BEUSE: Right.

17 MR. GROSSMAN: We don't have any strong  
18 feelings about where this should be housed or who it  
19 should be hosted by. We just would like to see it  
20 centralized as one stop shopping.

21 MR. BEUSE: Right. Okay. So I mean it's what  
22 we're talking about. The other thing I think that

1 comes up in your comments and you were pretty clear on  
2 it is the struggle between providing concise summary  
3 information that is not overly technical that provides  
4 useful information about how a company is addressing  
5 safety. In the discussions that you folks have had is  
6 there a distinction between what would be provided  
7 let's say to the general public versus something that  
8 would be useful for let's say a state legislature or an  
9 AAMVA jurisdiction?

10 MR. GROSSMAN: I think there is a level of  
11 technical specificity that might be of use to say the  
12 DMVs --

13 MR. BEUSE: Yeah.

14 MR. GROSSMAN: -- that are really diving deep  
15 in this that may not be as accessible or applicable to  
16 either the public or a state legislator. However, I  
17 wouldn't -- I would suggest that it is so new that the  
18 more we can make all that information available to  
19 everyone I would hesitate to separate it too finely.  
20 However, I would reinforce that there will be a need  
21 and desire for state DMV officials to want to dive  
22 deeper than maybe the average consumer that is looking

1 at the product or the state legislator that is trying  
2 to be educated.

3 MR. BEUSE: Right. Right.

4 MR. GROSSMAN: Does that --

5 MR. BEUSE: Absolutely. Absolutely.

6 MS. SWEET: Similar comments actually with a  
7 single location with push notification would require  
8 some kind of registration and --

9 MR. GROSSMAN: Yes.

10 MS. SWEET: -- and is that public. Is that  
11 something that you would envision everyone in the  
12 public having access to these kind of push  
13 notifications or if is it not necessary are there two  
14 different venues one to get push notifications and  
15 others where maybe the public just goes to learn about  
16 it and doesn't necessarily require that kind of  
17 registration. Is there a difference?

18 MR. GROSSMAN: I think if they're -- sure.  
19 Ultimately no. I think if the nature of the voluntary  
20 self-assessment is to be a public disclosure for anyone  
21 who wants to be able to access that I would see no harm  
22 in allowing any individual to register to receive a

1 notification that that information has been loaded or  
2 updated.

3 MS. SWEET: In your comments you mentioned  
4 having contact information for entities.

5 MR. GROSSMAN: Uh-huh.

6 MS. SWEET: Is having that as part of the  
7 public website would open up entities to risking  
8 getting a lot of information -- a lot of calls.

9 MR. GROSSMAN: Right.

10 MS. SWEET: So is that something that is in  
11 your mind more state specific?

12 MR. GROSSMAN: Yes. And as I mentioned I am  
13 not sure how -- I don't have today a solution on how to  
14 do it. I just know that the self-assessment process may  
15 provide a platform where we could bridge that gap. And  
16 if indeed we're creating a clearinghouse of this  
17 information, perhaps there is an opportunity to dive  
18 deeper, figure out how to do that. But I would agree.  
19 I would not anticipate that entities would have to put  
20 up that individuals name and contact information for  
21 anyone to access.

22 MR. BEUSE: I have one follow up question if I

1 can. And granted it has only been out there for a  
2 little bit of a month but when you think about kind of  
3 how companies and entities will be interacting with  
4 kind of AAMVA, DMV at the state level this constant  
5 theme of having awareness of what's going on in the  
6 jurisdiction or what's going on in that local community  
7 kind of comes up time and time again and so the  
8 question I have for you is, and you may not have an  
9 answer and that is okay, if somebody is developing  
10 let's say a system, let's call it the driving system,  
11 the ADS and that is the same no matter what vehicle  
12 they put it on, do you see a clever way to sort of be  
13 able to meet the need of knowing what is deployed in  
14 their jurisdiction without sort of predetermining or  
15 them foreshadowing that they might be deploying in  
16 other part of the country that they haven't announced  
17 yet, let's say. So in other words they might start in  
18 one place and that system is going to be nearly  
19 identical to one deployed somewhere else but they are  
20 not ready to disclose that. How do you wrestle with  
21 that with the need for wanting to know a specific make  
22 and model or specific vehicles?

1           MR. GROSSMAN: Well, I think in that instance  
2 I mean that is where the update to the self-assessment  
3 can be a solution. So if at one point you're putting  
4 out that model in only State A, you're putting out that  
5 self-assessment that identifies that. And then when you  
6 are ready to expand it you will be able to go back in  
7 and update that assessment to say technology is the  
8 same, we are expanding the footprint of where it is  
9 going to be.

10           MR. BEUSE: Okay. Great. Thank you.

11           MS. SWEET: I do actually have one more  
12 question. There is a lot of responsibility I think  
13 expected of NHTSA to inform the public and states about  
14 information in any kind of self-assessment that we  
15 might get. It is foreseeable that if a state is  
16 requesting or looking to get or to permit an entity  
17 that that jurisdiction wants a self-assessment tape  
18 with the document or information provided to them; is  
19 there an avenue for states to provide NHTSA with that  
20 information if they were to find out about it before a  
21 federal notification; does that make sense?

22           MR. GROSSMAN: I think I followed what you were

1 saying. I think the answer is the good news is that  
2 informally the states have a very strong and positive  
3 relationship with NHTSA where I believe that  
4 information is flowing regularly. To set up a formal  
5 relationship with that I think that is where the  
6 centralized clearinghouse could come to effect because  
7 I would be pressed to imagine a situation where an  
8 entity would send an assessment only to that one  
9 individual state without actually also filing it in  
10 that central location if that central location is  
11 available.

12 MS. SWEET: Just -- I think a lot of us think  
13 about these entities as large corporations and  
14 companies and we have to take into consideration the  
15 smaller guys, the start-ups, the garage folks  
16 developing systems.

17 MR. GROSSMAN: Absolutely.

18 MS. SWEET: And maybe they don't know about  
19 responsibilities that would lie with the federal  
20 government and might just show it to a state.

21 MR. GROSSMAN: In that case I think it would  
22 be a simple business step for a state to say have you

1 also uploaded this to blah, blah, blah where all the  
2 self-assessments go to, you really need to do that.  
3 And states would be happy to reinforce that with the  
4 entities that they're working with.

5 MR. BEUSE: And thinking through kind of a  
6 follow up to that question and my question before  
7 because you mentioned updates and then kind of this  
8 exchange going on. So I think year two down the road,  
9 year three, the same question I kind of alluded to with  
10 Mr. Gehring what's been the preliminary conversations  
11 within the AAMVA community about sort of updating of  
12 self-assessments? Is the idea that we would have kind  
13 of the one that was published or made available  
14 whatever December 2017 and that same one keeps getting  
15 updated and there is a whole kind of track of that or  
16 is the idea that no, you just really only care about  
17 most current one and that is what's available, so  
18 multiple documents or one single document? What's the  
19 --

20 MR. GROSSMAN: That's a great question. I  
21 haven't heard a specific conversation about that. I  
22 think the most current information, of course, is

1 important but I think having a historical record as we  
2 know once -- just because there's a new update to the  
3 vehicle or the system doesn't preclude that previous  
4 vehicle system for still being on the roadway.

5 MR. BEUSE: Right.

6 MR. GROSSMAN: So I think it has to not  
7 supersede it. It needs to somehow be connected to the  
8 original self-assessment. Whether or not the template  
9 itself allows for that continuation or it's additional  
10 filings, I think that's a level of detail that I think  
11 could be helpful. We don't have a strong viewpoint on  
12 that.

13 MR. BEUSE: Okay. Great.

14 MR. GROSSMAN: I would though say as I think  
15 through your question not losing that history and  
16 having that either in an archive or somehow connected  
17 through a hyperlink to the updated version is going to  
18 be a valuable piece because all of those previous  
19 iterations will still be out there on the road  
20 somewhere.

21 MR. BEUSE: Great. Great. Thank you very  
22 much. Appreciate it.

1           MR. GROSSMAN: My pleasure. Thanks for having  
2 us.

3           MS. SWEET: All right. The next Brian  
4 Daugherty. It looks totally different on the screen.

5           MR. DAUGHERTY: All right. Thanks, Debbie.

6           MS. SWEET: You're welcome.

7           MR. DAUGHERTY: Good morning. My name is  
8 Brian Daugherty. And I'm the Chief Technology Officer  
9 with the Motor Equipment Manufacturers Association,  
10 also known as MEMA.

11           On behalf of the members of MEMA we'd like to  
12 thank NHTSA, Secretary Chao, and Acting Administrator  
13 King for the opportunity to speak today as well as both  
14 of you.

15           So MEMA, the Motor and Equipment Manufacturers  
16 Association represents almost 1,000 manufacturers of  
17 original and after-market components and systems for  
18 both passenger and commercial vehicles. MEMA has four  
19 divisions which you see up here. OESA the Original  
20 Equipment Suppliers Association covering light vehicle  
21 suppliers. HDMA the Heavy-Duty Manufacturers  
22 Association representing commercial and off-highway

1 vehicle suppliers. AASA the Automotive After-market  
2 Suppliers Association. And MERA the Motor and  
3 Equipment Remanufacturers Association. So our four  
4 divisions give us a unique understanding of the  
5 innovation and technology development that is going on  
6 across the transportation industry.

7 So the motor vehicle suppliers are the  
8 nation's largest direct employers of manufacturing jobs  
9 employing over 87,000 workers in all 50 states and  
10 contributing nearly \$435,000,000 in terms of U.S. GDP.

11 Our members support a cleaner safer world and  
12 are committed to developing a broad array of  
13 technologies and manufacturing a wide range of  
14 products, components and systems that make vehicles  
15 safer and more efficient. Suppliers are on the  
16 forefront in the development of automated driving  
17 systems as well as a whole host of other advanced  
18 safety technologies that are intended to improve  
19 mobility and make it safer for drivers, passengers,  
20 pedestrians, cyclists and other road users. Suppliers  
21 provide the technologies and components that make up  
22 more than 77% of the value of a new vehicle.

1           Automated driving systems have their  
2 foundation in critical building block technologies like  
3 advanced driver assistance systems, commonly known as  
4 ADAS, advanced vehicle architectures and also vehicle  
5 to vehicle communications, also known as V2V.

6           To get there suppliers have significant  
7 ongoing investments in R&D and in validation testing  
8 both simulated and real world in order to bring these  
9 technologies safely to fruition and onto vehicles.

10           The bottom line is we believe the technologies  
11 our members are developing for their vehicle  
12 manufacturers customers will have a profound impact on  
13 avoiding or mitigating crashes thereby saving lives  
14 through reducing injuries. The development of  
15 automated driving technologies is evolutionary. The  
16 endeavor to tackle public policies while permitting  
17 rapid innovation is a balancing act and requires the  
18 collaboration and cooperation among all public and  
19 private stakeholders just like we are doing today.

20           We appreciate the opportunity to be here today  
21 to share some initial views on the voluntary safety  
22 self-assessments from the recently revised automated

1 driving system guidelines 2.0 version.

2 So MEMA supports an iterative transparent  
3 approach to provide entities with a flexible framework  
4 of voluntary guidance that applies to automated driving  
5 systems for passenger cars, light trucks, and  
6 commercial vehicles. A guidance approach in the  
7 context of a national framework with a clear role for  
8 the states sets pathways for all stakeholders to  
9 navigate the complexities of automated vehicle  
10 technologies and vehicle supply chains.

11 MEMA wants to ensure that these pathways avoid  
12 unintended impediments to product design, enhancements,  
13 and innovative advancements, innovative technologies  
14 each with a goal of saving lives.

15 MEMA appreciate key clarifications regarding  
16 voluntary safety assessments such as consolidating the  
17 elements down from 15 to 12 and then allowing  
18 flexibility on the information provided is helpful to  
19 entities like suppliers to tailor their assessments  
20 more appropriately to the testing and evaluation  
21 environment.

22 We believe the guidance approach is

1 appropriate for this policy and maintains NHTSA ability  
2 to stay flexible regarding these quickly evolving  
3 technologies. Most of our suppliers are testing their  
4 systems in modified test vehicles which should be  
5 treated differently from production vehicles.  
6 Typically these vehicles are company owned, are  
7 operated only by trained employees and are not intended  
8 for production or sale to the public. Thus MEMA was  
9 pleased that the agency recognizes that during the  
10 testing phase some of the 12 elements are simply not  
11 applicable and offers entities the opportunity to  
12 include an acknowledgement stating that an element is  
13 not applicable.

14 Also protecting companies' proprietary  
15 hardware and software, intellectual property, and  
16 confidential business information are extremely  
17 important as previous speakers have said. There is  
18 also a great deal of propriety intellectual property  
19 invested in these systems. If the agency needs more  
20 information from an entity then assurances should be  
21 given that the confidential information will be  
22 protected by going through normal confidential business

1 information protocols.

2 MEMA encourages NHTSA to consider hosting a  
3 central repository of entities safety assessments.  
4 This would help provide easy access for not only the  
5 agency but also for entities and members of the public  
6 and enhance transparency.

7 It is especially important that in the 2.0  
8 guidelines NHTSA strongly encourages states not to  
9 codify the federal guidelines as a legal requirement  
10 for any phases of development, testing or deployment.

11 However, a key concern remains. Vehicle  
12 manufacturers are currently allowed to test and  
13 evaluate vehicles which do not comply with FMVSSs and  
14 are able to operate on public roadways. Suppliers  
15 currently do not have this codified. While there are  
16 efforts under way in Congress to fix this issue via  
17 legislation there are no guarantees that the bill will  
18 be finalized and passed. If this legislative solution  
19 is not solidified the current US DOT processes do not  
20 provide an adequate avenue for suppliers. Therefore  
21 MEMA urges the US DOT to address this matter and  
22 implement key processes such that suppliers can

1 effectively petition NHTSA for exemptions allowing  
2 testing on public roads.

3 On behalf of our members thank you for the  
4 opportunity to share our views today. We look forward  
5 to continuing our interaction with NHTSA regarding  
6 these guidelines and voluntary safety self-assessments.

7 Thank you.

8 MS. SWEET: Thank you Brian.

9 So this is going to sound kind of familiar but  
10 coming from your perspective especially with all the  
11 testing that your members conduct, updates are going to  
12 be something that are of interest and we've heard that  
13 before from folks that have come in, suppliers that  
14 have come in. So how do you foresee updates to a self-  
15 assessment given that they are done so frequently and  
16 do we need to keep track of them in this central  
17 repository from your unique perspective of frequent  
18 updates?

19 MR. DAUGHERTY: I think obviously some updates  
20 will be necessary. We're still discussing this with  
21 our members but I think depending on how general a  
22 section is that it may not require as much updating as

1 people think unless there's some significant changes in  
2 how the vehicle is designed.

3 I agree with the previous comment that having  
4 access to prior versions of the safety assessments is a  
5 good idea especially if you can have the most current  
6 ones kind of easily available and then an archive with  
7 the older versions so people don't get confused on what  
8 the latest and greatest versions are.

9 MS. SWEET: Okay. Is this central repository  
10 public or something only accessible for certain  
11 individuals or companies?

12 MR. DAUGHERTY: I think given that these are  
13 public disclosures I think that having it available to  
14 the public makes sense.

15 MS. SWEET: In the same format?

16 MR. DAUGHERTY: I think some of the  
17 confidential information as was discussed in some of  
18 your previous comments and by previous speakers it  
19 would make sense to have some of the contact  
20 information only available to entities that really need  
21 to know that information.

22 MR. BEUSE: Mr. Daugherty I have a couple

1 maybe follow up questions. One is maybe to pick up on  
2 the question that Mr. Grossman asked about after-market  
3 equipment let's say. Do you think the discussion that  
4 have happened thus far within the MEMA community that  
5 there is not enough flexibility in this to allow this  
6 to apply to after-market equipment or that there is  
7 kind of a whole new process needed? And I believe what  
8 Mr. Grossman -- I don't want to put words in his mouth  
9 but I believe what he is specifically referencing is  
10 sort of someone buying software and putting it on top  
11 of the vehicle.

12 MR. DAUGHERTY: Right. No at least my initial  
13 impression from the guidelines, the 2.0 guidelines you  
14 can see that applying to the after-market as well. So  
15 maybe there needs to be somewhat of a different version  
16 but I think in general that makes sense. When you also  
17 look at the commercial vehicle market you know a lot of  
18 the systems really are almost after-market systems that  
19 the OEs install on those heavy trucks per the fleets  
20 specifications when they order a vehicle. So given  
21 that I think that you'd have a very similar process.

22 MR. BEUSE: Right. And you referenced this

1 testing versus deployment versus for sale and I think  
2 you would agree with me that it has become somewhat  
3 complicated over the past 12 months.

4 MR. DAUGHERTY: Yes.

5 MR. BEUSE: But beyond that I think in looking  
6 at from a state perspective and using these voluntary  
7 self-assessments is that sort of becoming not a  
8 necessary distinction. I mean granted there is a  
9 distinction between two engineers in the car with the  
10 laptop and they are doing their thing but the moment  
11 you put a member of the public in there it just seems  
12 to be a different kettle of fish.

13 MR. DAUGHERTY: I agree with that division. I  
14 think as long as you have company employees testing  
15 company vehicles even on public roadways that is very  
16 different than actually having members of the public  
17 either in the car with those test engineers or on their  
18 own in a deployed vehicle.

19 MR. BEUSE: Right.

20 MR. DAUGHERTY: So I think that is distinction  
21 there.

22 MR. BEUSE: Okay. And maybe the last question

1 when you look at kind of the role of the suppliers  
2 currently right now many suppliers have test vehicles  
3 on the road and presumably that's what Debbie was  
4 mentioning presumably those folks would have voluntary  
5 self-assessment they'd make available and it might need  
6 to be updated et cetera. But how does that change or  
7 more for how you guys talking about it with respect to  
8 kind of now once that is ready for let's say deployment  
9 is that now a shift that someone else is responsible  
10 for the self-assessment or you think the supplier  
11 community would still be responsible? And the reason  
12 why I ask is because this has come up in discussion at  
13 the state level with the jurisdiction wanting to know  
14 like who do they need to talk to if they need to talk  
15 to anybody.

16 MR. DAUGHERTY: I think that is a very good  
17 question. I guess I would say that you know a  
18 supplier, especially larger tier one suppliers that are  
19 doing testing on these types of vehicles all the time,  
20 testing a vehicle that is kind of that testing element  
21 we talked about. So there would obviously be the  
22 voluntary safety self-assessment there. Once that

1 technology was headed for production I would assume  
2 that would be through an OEM, that OEM then would work  
3 with that supplier of the technology or maybe multiple  
4 suppliers to integrate that into a new safety  
5 assessment for that OEM -- from that OEM for that  
6 deployment.

7 MR. BEUSE: Okay. Great. Thank you very  
8 much.

9 MR. DAUGHERTY: Thank you.

10 MS. SWEET: Thank you, Brian.

11 Dan Smith, if you can come up next.

12 MR. SMITH: While you are getting ready,  
13 Debbie I'll just say good morning and then good  
14 morning. If I had understood this seating arrangement  
15 I might have shined the backs of my shoes.

16 [LAUGHTER.]

17 MR. BEUSE: Always good for a joke from Mr.  
18 Smith.

19 MR. SMITH: I'm Dan Smith. I'm the Senior  
20 Regulatory Advisor at WAYMO. And I want to thank DOT  
21 and NHTSA for holding this workshop and more important  
22 for leading the way in expending interest in and

1 dialogue about self-driving vehicles.

2 It is great to be here with so many people who  
3 whatever our perspectives welcome the huge safety  
4 benefits that self-driving vehicles will bring.

5 On October 12 WAYMO published the WAYMO safety  
6 report, called On the Road to Fully Self Driving which  
7 you can find at [waymo.com/safetyreport](http://waymo.com/safetyreport), we thought it  
8 was a clever title. At any rate you will find it  
9 there.

10 This next slide shows the cover of the report  
11 on the left and parts of the table of contents on the  
12 right. Again anyone who is interested can find it at  
13 [waymo.com/safetyreport](http://waymo.com/safetyreport).

14 Let me briefly explain what our report  
15 consists of and why we published it. Our report  
16 provides an overall framing of WAYMO's safety processes  
17 for our Level 4 technology which is being designed to  
18 operate without a human driver. The report addresses  
19 the 12 safety areas that NHTSA has recommended for  
20 inclusion in a voluntary safety self-assessment in its  
21 automated driving systems 2.0, A Vision for Safety.

22 Yes, we can move to the next slide please.

1       However, rather than simply list each of the 12 areas  
2       and address them separately we decided to address them  
3       within four broader categories which you can see up on  
4       the screen. Number one our systems safety program  
5       which we call safety by design. Number two how WAYMO's  
6       self-driving vehicles work. Number three testing and  
7       validation methods, insuring our vehicles are capable  
8       and safe. And number four interacting safely with the  
9       public. I am going to spend a minute on each of those  
10      to give you an idea what is covered within those area.

11                You can leave that one up there if you would  
12      please, thanks. First of all our systems safety  
13      program Safety by Design as its name implies it  
14      summarizes the safety processes we use to address  
15      behavioral functional operational crash and non-  
16      collision safety. We note in the report that we rely  
17      heavily of course on ISO 26262 and the Military  
18      Standard 882E which is kind of the grandparent of  
19      system safety and as well as our own experience in  
20      determining our safety processes that we use. And we  
21      in the report go into more detail in terms of hazard  
22      analysis and other techniques that we employ.

1           The second big subject area that we deal with  
2   is how our vehicles work which we thought would be of  
3   greatest interest to the public because there is so  
4   much mystery about how these vehicles actually work and  
5   you know everybody's works a little differently but  
6   basically they all derive their information from a  
7   suite of sensors. And so we describe our suite of  
8   sensors and how our software uses the sensor data to  
9   make driving decisions; how our vehicles stay within  
10   our operational design domain, our ODD; how are  
11   vehicles are built to always have the capability to  
12   transition to a safe stop if necessary; and how we  
13   address cyber security and data recording. All of  
14   those are covered in terms of how our vehicles work in  
15   a way that we hope is understandable to all readers.

16           If you could move to the next slide for a  
17   minute please and then move back. This one which may  
18   be illegible from further away that I'm sitting  
19   underscores our redundant safety systems in the  
20   vehicle. Redundancy is extremely important  
21   particularly at Level 4 and ours is a Level 4 system.  
22   So we wanted to explain to folks that in addition to

1 all of the work we do with regard to developing the  
2 software, designing the software, the hardware that  
3 goes with it to make up sub body system, we also build  
4 in redundancies; we have backup, computing backup,  
5 steering backup, braking and backup power and backup  
6 collision avoidance systems. And so they're just  
7 symbols that we are using for those.

8 If you could go actually backwards, Debbie,  
9 just so we've got the heading up there. Thank you.

10 The third category in the report concerns our  
11 testing and validation methods. And here we explain  
12 how we used closed course testing at a facility in  
13 Castle in California; computer simulation, billions of  
14 miles of computer simulation each year; and on-road  
15 testing to insure the safety of our hardware, software,  
16 and of course the complete vehicle.

17 We explain in the report that we conduct  
18 testing in literally thousands of different scenarios.  
19 And we divide those scenarios as NHTSA does into two  
20 broad categories: behavioral competencies for normal  
21 driving. The report notes that our testing goes beyond  
22 the 28 competencies that NHTSA has listed derived

1 partly at least from the PAC competencies. And we've  
2 added some of our own based on our own experience for  
3 instance adding school buses which might have been  
4 implied in one of the NHTSA's competencies but clearly  
5 is an important one for self-driving vehicles.

6 In the crash avoidance area the other major  
7 area of our testing the report notes our use of NHTSA  
8 crash causation research, the 37 pre-crash scenarios  
9 from the 2007 NHTSA report which I am sure everyone  
10 here has read in detail but it does lay out the basic  
11 pre-crash scenarios which we used to develop and model  
12 some of our crash avoidance testing. We've added to  
13 that testing based on our own experience and other  
14 sources including digging into the FARS, Fatality  
15 Analysis Reporting System, of NHTSA to find other  
16 scenarios that we wanted to test.

17 So all told, and all put together the testing  
18 that we do in behavior competencies and crash  
19 avoidance, the reliability tests we do, the software  
20 tests from the beginning of the process to each version  
21 of the software, all of that testing, we are doing  
22 thousands of tests in different scenarios.

1           The fourth area of our report deals with we  
2   call interacting safely with the public. And of course  
3   this is as important as any other area. Here we  
4   describe our user interfaces including our mobile app,  
5   our in-car displays and how passengers can speak with  
6   WAYMO's rider support team from inside and outside of  
7   vehicles. In addition to accessibility features in  
8   development and our practices for interaction with law  
9   enforcement and emergency responders. And I know that  
10   is of great interest to AAMVA and the other folks  
11   interested in dealing with the state and local  
12   officials. Our report has a fairly broad description  
13   on how we do it but if you read our report you'll see  
14   we've already begun trainings with state and local  
15   emergency responders which we find very useful and I  
16   hope they find very helpful. We think that ground  
17   level contact is most important for insuring that there  
18   is an understanding in terms of what a manufacturer is  
19   putting on the roads.

20           So we chose this organization with these four  
21   broad areas because we thought it would be helpful to  
22   address the safety assessment subjects within a broader

1 discussion of our overall safety approach, the way our  
2 technology works and how we test and validate the  
3 safety of our technology and how our vehicles interact  
4 with the public. So we thought those broad categories  
5 made it more understandable.

6 In providing our report to DOT and NHTSA we  
7 explained where each of the 12 subjects is addressed  
8 within that report's framework.

9 So that is the what. Now the question is why.  
10 Why did we do the report? Why now? How did we decide  
11 what to include?

12 The next slide please, actually two slides up.  
13 There were go. Thank you.

14 In short, the time is right for us to explain  
15 to NHTSA and the public the basic workings of our Level  
16 4 self-driving system and the extensive steps we take  
17 to design and build safety into our self-driving  
18 technology from the ground up both before and after it  
19 is integrated into a fully self-driving vehicle. We  
20 are confident in the capability of our self-driving  
21 technology and committed to its safety. We know that  
22 sharing with the public the basis for our confidence

1 and the strength of our commitment is important to  
2 building public trust around the technology.

3 DOT and NHTSA also recognize the importance of  
4 educating the public on the basic of self-driving  
5 technology and the steps companies have taken to insure  
6 the safety of those systems. In fact, the public  
7 notice for this meeting articulated why an entity would  
8 want to issue such a report. The notice said that  
9 voluntary safety self-assessments are intended to  
10 communicate to the public and that the entity issuing  
11 the report is among other things considering the safety  
12 aspects of automotive driving systems and building  
13 public trust, acceptance and confidence through  
14 transparent testing and deployment of automated driving  
15 systems.

16 So we strove to strike a helpful balance  
17 between being too technical on one hand or too basic on  
18 the other. Reasonable minds can always differ in terms  
19 of how the balance is struck in any of these things. We  
20 were trying to insure the report be approachable to  
21 those who are not steeped in the technical jargon of  
22 automated vehicles but also useful to a technical

1 audience.

2           We were able to highlight the important  
3 aspects of our technology and safety program without  
4 disclosing confidential business information and as  
5 NHTSA said in its notice to this meeting the report  
6 also allows companies an opportunity to showcase their  
7 approach to safety without needing to reveal  
8 proprietary intellectual property. We think it is  
9 important that NHTSA stated it that way, that the idea  
10 of these things is to showcase the approach to safety.

11           The report that we've done is quite clearly  
12 intended only to summarize our safety approach and to  
13 provide baseline information to a public that is still  
14 looking for basic information on how the cars work.  
15 This once again accords with NHTSA's notice for this  
16 meeting which recommends that a voluntary safety self-  
17 assessment contain concise summary information.

18           To further educate the public we've also  
19 embarked on a focused campaign to help the public  
20 better understand the technology which we call Let's  
21 Talk Self-driving which you can find at  
22 [letstalkselfdriving.com](http://letstalkselfdriving.com), all one word. And we have

1 partners in that including some local groups and also  
2 National Safety Council being partners in this effort  
3 to increase public education for self-driving vehicles  
4 which I know is extremely important to Secretary Chao.

5 We don't contend that the report is the last  
6 word on the safety of our Level 4 system. We'll be  
7 continually improving the safety of that system through  
8 the processes outlined in the report insuring that we  
9 are ready for every new step along the way.

10 WAYMO safety culture insures that safety  
11 drives our self-driving program insuring that safety  
12 issues are always at the forefront.

13 One final point Acting Administrator King  
14 already pointed to the traffic statistics that NHTSA  
15 recently published for the world to see. The recent  
16 report from 2016 provides a clear warning about  
17 continuing down the road we're on as a society with  
18 regard to highway safety. 37,461 people died on the  
19 roadways, an increase of 5.6% from the previous year.  
20 And I'd like to let those numbers sink in for a minute  
21 because I know -- I don't know about you but sometimes  
22 when I hear these numbers, these large numbers they go

1 right by, the conversation continues. But that's an  
2 amazing toll, 37,000 people.

3 Self-driving vehicle including WAYMO's are  
4 designed not to make the kinds of errors that human  
5 drivers make such as driving drunk, drowsy, or  
6 distracted and that cause the vast majority of crashes.  
7 The very real opportunity to vastly reduce this annual  
8 toll of deaths and injuries as well as the enormous  
9 economic costs that add in human toll provides all the  
10 incentive anyone needs to stay focused on the ultimate  
11 safety goal of self-driving technology.

12 Efforts by leaders in self-driving technology  
13 to make summaries of their safety approaches publicly  
14 accessible make it more likely that the public trust of  
15 the technology will grow and its benefits will be  
16 realized in lives saved and injuries prevented.

17 Thank you very much for your attention.

18 MR. BEUSE: Thank you, Mr. Smith.

19 MR. SMITH: Uh-huh.

20 MR. BEUSE: Maybe a couple of questions and  
21 some of which you addressed but I want to make special  
22 emphasis on is as somebody who has had a long career or

1 making technical information easy to understand and it  
2 is kind of striking that balance can you kind of walk  
3 us through again, just sort of at a high level some  
4 companies processes they consider a CBI and then so how  
5 do you take that and try to make sense of it without  
6 disclosing the CBI and make it useful.

7 MR. SMITH: Uh-huh. Well, we did the best we  
8 could in that regard. We obviously went through and  
9 made sure we weren't disclosing CBI and you need to do  
10 that. But we wanted to go right up to the point where  
11 we were explaining as much as we possibly could without  
12 you know tipping over into the point where we were  
13 disclosing something that is really commercial  
14 information or proprietary information. So I think  
15 what we did was essentially start with the story we  
16 wanted to tell, tell it, and then make sure we weren't  
17 breaching anything that's truly proprietary.

18 MR. BEUSE: Did any of the -- and you can say  
19 can't answer or whatever but did any of the testing  
20 that WAYMO's already been doing kind of help inform the  
21 format and the types of information. Was there like  
22 sort of a dry run of it to say you know what this is

1 the right level for kind of general public to  
2 understand or it's just kind of what you guys came up  
3 with without doing that?

4 MR. SMITH: Any pre-testing of --

5 MR. BEUSE: Yeah.

6 MR. SMITH: -- our approach?

7 MR. BEUSE: Uh-huh. Or the types of  
8 information regarding --

9 MR. SMITH: No I mean we've got a very great  
10 communications staff and they I think tend to be very  
11 well attuned to what might actually be understandable  
12 to folks who are highly intelligent but not well versed  
13 in this particularly wonky area. So it was their  
14 influence that helped us try to find ways to explain  
15 things. You can see that in the format it is sort of  
16 like okay rather than several pages of dry -- of black  
17 and white text which is probably what I would have  
18 produced, they'll have insets and boxes and so forth  
19 that explain particularly important areas in ways that  
20 are discrete and bite size chunks of information.  
21 Sorry. I think all our credit goes to our  
22 communications staff for understanding how to do that.

1           MR. BEUSE: Great. Kind of along that same  
2 theme what are your initial thoughts about the idea of  
3 this template of an element that was sort of put out  
4 there. Do you think it's useful? Was it useful? Was  
5 it not necessary? What are your initial thoughts on  
6 that?

7           MR. SMITH: Well, oddly enough the template  
8 came out the day we issued our report.

9           MR. BEUSE: It did. There was a version in  
10 the PR packet.

11          MR. SMITH: So we weren't able to make great  
12 use of it, that and the fact that it concerned a  
13 hypothetical vehicle with two doors and four passengers  
14 and had been subject to intentions and so forth, so in  
15 other words I think it was helpful to know that the  
16 agency was giving suggested areas as you said earlier  
17 today for things that might be addressed rather than  
18 trying to proscribe any rigid kind of format.

19          MR. BEUSE: Right. One of the things you  
20 heard Mr. Grossman talk about this idea of having kind  
21 specific make/model information and kind of linking  
22 that to a safety report. If you kind of think through

1 that for a moment is that a particular challenge or do  
2 you see it just as simply as he said it is just an  
3 update to a safety report as maybe more vehicles are  
4 added or more states are added or how that would  
5 actually work.

6 MR. SMITH: Well, I'd like to talk to my  
7 colleagues back in WAYMO in terms of how that might  
8 actually unfold without delving into it now. But for  
9 right now it is simple for us. We've got one platform.

10 MR. BEUSE: Right.

11 MR. SMITH: And one automated driving system.  
12 So it is just not all that complicated right now. In  
13 the future it may become a different sort of  
14 arrangement where different manufacturers have  
15 different things going on all over the place and people  
16 need to understand what those different things are.

17 MR. BEUSE: Yeah. I think we'd look forward  
18 to your comments on that kind of at the comment period  
19 about is there an issue there or not and what are some  
20 ideas maybe to address that. Again kind of all in with  
21 the mindset of trying to make it useful to both the  
22 states who want to see this information but also

1 protecting CBI and all the like.

2 MR. SMITH: Uh-huh.

3 MR. BEUSE: Maybe my last question and Debbie  
4 might have some as well so this idea of a central  
5 repository or a linking system has come up a couple of  
6 different times today. How does WAYMO view that or  
7 what are your views on sort of the need to kind of have  
8 all these things be once stop shopping or is there a  
9 better way to do it?

10 MR. SMITH: Again I think AAMVA had some very  
11 good comments in terms of what it sees as the needs of  
12 the state and so forth and then there is the public at  
13 large and research institutions and so forth who also  
14 would want to know about these things. I think it is  
15 just up to NHTSA to figure out what might make the most  
16 sense, what your role is, whether it is a central  
17 repository point system or what have you. I will say  
18 for the moment it is pretty simple.

19 MR. BEUSE: Yeah.

20 MR. SMITH: Go to [waymo.com/safetyreport](http://waymo.com/safetyreport),  
21 that's where you will find the current stock in safety  
22 reports.

1 MR. BEUSE: Right.

2 MR. SMITH: But as they get to be more  
3 numerous that will be challenging.

4 MR. BEUSE: Yes, and I know you have some  
5 experience with sort of when you create these systems  
6 sometime and you don't think down the road a bit  
7 sometimes you put things in place and you realize I  
8 really wish we would have built it a little bit  
9 differently. And I think that is what we're trying to  
10 think about is we are in year -- no even year month one  
11 essentially, we have one which is great and I'm sure we  
12 will get others but then as this thing expands does it  
13 end up becoming just something that's just not workable  
14 because we didn't ask the right questions about all  
15 these different issues. That's sort of why we are  
16 asking to make sure we are keeping an open mind about  
17 the various possibilities for what this would look like  
18 to indeed address a one stop shopping but not make it  
19 seem like we're sort of holding all of these and  
20 somehow some in our possession that aren't -- I mean  
21 you wouldn't believe the number of questions we  
22 received over the past couple of months about did NHTSA

1 get one as if we got a bunch and had kept them private  
2 or something.

3 MR. SMITH: Well, you folks know what  
4 pressures you've got to deal with but I think that the  
5 whole point of the guidance was to be transparent and  
6 publicly educational and so forth and where there is a  
7 will there's a way. I'm sure I'll hear from other good  
8 folks later in the day who will have ideas in terms of  
9 how that might get done.

10 MR. BEUSE: Yeah. Great.

11 MS. SWEET: So in reading the report --

12 MR. SMITH: Uh-huh.

13 MS. SWEET: -- and you stated earlier you  
14 didn't call out specifically the safety elements, the  
15 12 safety elements such that maybe a state looking to  
16 use it to understand before they were to allow testing  
17 or anything they're kind of -- the comments are  
18 embedded within without specific callout. How does a  
19 user, a state that is looking to expect this safety  
20 report as their assurance that you guys have taken all  
21 these safety elements into consideration where is their  
22 checklist to know these are the safety elements in the

1 voluntary guidance and WAYMO has specifically gone  
2 through it? I know we saw the letter that preceded the  
3 document but to be honest I didn't see if that was an  
4 appendix to your safety report. But I am just curious  
5 how a user matches the items in safety or in the  
6 voluntary guidance to your safety report?

7 MR. SMITH: Right. And as you said we did  
8 submit a letter to the Secretary and to Acting  
9 Administrator King which did layout, in fact, I missed  
10 my last slide there. My last slide would help us. The  
11 point is that the 12 areas are dealt with in a way that  
12 we have described for the Secretary. We thought the  
13 Secretary would be more interested and NHTSA than  
14 necessarily anybody else in the general public in terms  
15 of ticking off those 12 areas. We'd be glad to explain  
16 to anybody where they are. But some of them are fairly  
17 I think pretty obvious, the system safety plan is a  
18 whole chapter in object event, detection response.  
19 We've got the entire sensor suite described; we got the  
20 whole section on such things as minimal risk condition  
21 and so forth. So I think -- yeah, it might require  
22 someone to look around a little bit if they are

1 actually interested in ticking off those 12 or we could  
2 help them with that. But as I explained our purpose  
3 was to try to find a really helpful approachable way to  
4 get into it without just having a list of 12.

5 MS. SWEET: As I did go to the WAYMO website  
6 to find it. It is how does someone that doesn't know  
7 about the waymo.com/safetyreport know that down at the  
8 bottom of the page that safety report is what I'm  
9 actually looking for to find that type of information?

10 MR. SMITH: So you mean if someone is  
11 interested in the general subject and doesn't know that  
12 we have done the safety report how would they know  
13 where to look?

14 MS. SWEET: Uh-huh.

15 MR. SMITH: Well, let me turn that back at --  
16 that kind of goes back to some degree to the question  
17 about whether or not there is a repository. But you  
18 raise a good question and I will take that to our  
19 comm's folks. In other words they do a great job on  
20 that website.

21 MS. SWEET: No, I --

22 MR. SMITH: I think if -- it should leap out

1 at you but maybe there is a better way to make it leap  
2 out.

3 MS. SWEET: And one last question. Your  
4 discussion in the report is thorough and it goes  
5 through history, it talks about your system as it  
6 stands. So you may not know this but what would an  
7 update look like to that report? Would it be an  
8 addendum? Would be a wholesale new report?

9 MR. SMITH: We haven't taken that up. I'll  
10 have to talk to my colleagues about that. We -- we're  
11 glad we've got report number one published. And we  
12 just haven't really thought that through. We haven't  
13 thought that through.

14 MR. BEUSE: Thank you, Mr. Smith.

15 MR. SMITH: Thank you very much for your  
16 attention.

17 MR. BEUSE: Yes, thank you.

18 MS. SWEET: And our next speaker Anne Marie  
19 Lewis. And I'm going to take the screen down.

20 MS. LEWIS: Good morning. I'm Anne Marie  
21 Lewis, the Director of Safety and Technology Policy at  
22 the Auto Alliance. And on behalf of Alliance members

1 we thank Secretary Chao and NHTSA for their thoughtful  
2 leadership and the opportunity to participate in this  
3 public meeting today and discuss the voluntary safety  
4 self-assessment.

5 The action that the DOT and NHTSA's taken with  
6 the updated guidance will help to proactively reduce  
7 barriers for technologies that can have profound  
8 societal benefits. AVs and related technologies have  
9 the potential to significantly improve overall safety  
10 on our nation's roadways. The fatality numbers that we  
11 were just discussing for 2016 underscore what is at  
12 stake as we witness another year over year increase in  
13 roadway fatalities.

14 Given that over 90% of crashes are related to  
15 human error the crash avoidance technologies of AVs  
16 offer great promise to reduce these crashes. The  
17 enhanced mobility aspect of AVs are also laudable from  
18 a societal, economic and environmental perspective.  
19 AVs will offer more personal freedom and greater self-  
20 sufficiency for the elderly and people with  
21 disabilities as well as other segments of the  
22 population without access today. They will also help

1 reduce congestion getting us from point A to point B  
2 faster and with greater energy efficiency.

3 The future isn't something we should be afraid  
4 of or try to slow down. Rather it is something we  
5 should embrace and smiling accelerate. That is the  
6 path that we believe the administration has wisely  
7 chosen with the update to the AV guidance and the  
8 revamped voluntary safety self-assessment.

9 Alliance members appreciate that the VSSA is a  
10 voluntary publication process. This update provides  
11 transparency to the public of the critical safety  
12 elements while affording flexibility for each auto  
13 maker or AVs supplier to customize their assessment and  
14 publish it in the form that best fits their needs.

15 Additionally the AVS guidance recognizes that  
16 not all of the safety elements in the VSSA will be  
17 applicable to test vehicles. This is important and we  
18 appreciate this recognition and would like to  
19 reemphasize that providing a VSSA for each variant of  
20 an AV test vehicle would quickly become unwieldy. Not  
21 only do some of the safety areas clearly not apply for  
22 automated test vehicles such as consumer education and

1 training but providing an update for each modification  
2 to the vehicle technology would significantly delay the  
3 engineering process. We ask that NHTSA to keep this in  
4 mind going forward.

5 In the template provided for crashworthiness  
6 there are a few items that could be considered  
7 confidential business information. This includes  
8 summary of crash simulation scenarios, component  
9 testing, and physical tests. We believe these examples  
10 should be afforded confidential business treatment if  
11 the submitter properly requests it. And on behalf of  
12 our members Alliance would appreciate clarification  
13 from the agency to this effect.

14 Additionally with respect to the  
15 crashworthiness template our understanding that  
16 manufacturers should provide information that  
17 demonstrates that the highly automated vehicle being  
18 deployed provide an equivalent level of safety overall  
19 as compared to conventional vehicles. This approach is  
20 consistent with the expanded exemption process in the  
21 House and Senate AV bills that are moving through the  
22 legislative process.

1           Related to this point Alliance members  
2 appreciate the point that Secretary Chao emphasized in  
3 the AVS guidance regarding the enforcement authority of  
4 NHTSA to identify defects and issue recalls. This  
5 process is the same for AVs as it is for conventional  
6 vehicles. And the guidance also reiterates NHTSA's  
7 role in establishing FMVSS and enforcement compliance.

8           In closing Alliance is pleased to be working  
9 with NHTSA on updating many of the FMVSS for  
10 conventional vehicles for AVs. This is an important  
11 step to reduce barriers and we look forward to  
12 providing input on this process.

13           And overall today we'd like to take the  
14 opportunity to thank the DOT and NHTSA for their  
15 leadership on this issue. The next generation of  
16 policy is a powerful and effective step towards  
17 providing a safer, cleaner and more accessible mobility  
18 for all Americans. Alliance looks forward to  
19 submitting more detailed comments as part of the formal  
20 docket and I appreciate the opportunity to be part of  
21 today's public session.

22           Thank you.

1           MS. SWEET: For the issue of CBI in the  
2           template that was provided do you foresee being able to  
3           address that kind of information in generalized  
4           statements and then if necessary maybe linking or  
5           stating that you or an entity has submitted CBI as well  
6           if there is further information that is perhaps  
7           associated with it or is that just something that you  
8           don't foresee even going near in the first place?

9           MS. LEWIS: I think for those specific items I  
10          mentioned this would be something more case by case  
11          with the OEM.

12          MS. SWEET: Okay.

13          MS. LEWIS: So I'm not -- answer today but we  
14          can have follow up conversations on that.

15          MS. SWEET: Okay. I think you know at one  
16          point we had envisioned if something did come across as  
17          CBI that there would be an opportunity for the self-  
18          assessment to state something in a general manner and  
19          if an entity felt the need to submit CBI they could do  
20          so and maybe include that so that was an option to  
21          cover, to be able to cover the general idea and  
22          disclose the information that had been discussed. But

1 also provide or keep the confidential information  
2 confidential and know that it is available if  
3 necessary.

4 MS. LEWIS: Right. I mean I guess in the  
5 comments, if a manufacturer wanted to submit additional  
6 information about its CBI to NHTSA then we just wanted  
7 to ensure that it would be treated appropriately.

8 MS. SWEET: Of course. Of course.

9 Nat?

10 MR. BEUSE: Yes, I guess on maybe kind of  
11 closing in on that point. And granted it has only been  
12 a month and I know you said you were going to provide  
13 more detailed comments later but have the initial  
14 discussion sort of yielded that template is even  
15 necessary or not helpful or what?

16 MS. LEWIS: I think the template was helpful.  
17 In our previous comments we had suggested that this  
18 would be helpful. And we do find it helpful.

19 MR. BEUSE: Okay.

20 MS. LEWIS: And we appreciate the comments  
21 made today on a checklist and it could be added to but  
22 I think it give us a sense of what you have in mind and

1 the process is a flexible one.

2 MR. BEUSE: Yeah, I mean that is one of the  
3 great things about being open and collaborative and  
4 having a dialogue about this is to clarify all of these  
5 things pretty simply. So yeah, I mean I think the  
6 intent is not to get CBI actually at all. I mean the  
7 agency has other tools it can use if it needs to get  
8 that information versus having companies imply in some  
9 self-assessment that there is CBI available if you want  
10 it. I think that is not the intent.

11 MS. LEWIS: Okay.

12 MR. BEUSE: Maybe and again with the  
13 recognition that it has only been out there a month and  
14 as Mr. Smith pointed out the template itself the better  
15 part of a week. Can you talk a little bit about what  
16 the conversations have been about translating kind of  
17 very technical information into something that is  
18 useful for the public? I mean some of the companies  
19 did submit templates with their comments last time  
20 around. And I wondered has the conversation matured a  
21 little bit if there is any insight you can give us  
22 about that? The whole goal being is there something

1 more we could do to sort of help that along? That is  
2 why we are asking these questions. It is not so much  
3 to just ask questions. It is really to figure out is  
4 there a role for the agency much like we did the  
5 generic template is there another role we can play with  
6 sort of saying if you are struggling with this sort of  
7 how much information, here's some pointers.

8 MS. LEWIS: Yeah, I guess so far I haven't  
9 heard any major questions. I think like I said each  
10 manufacturer will address the VSSA a little  
11 differently.

12 MR. BEUSE: Right.

13 MS. LEWIS: So I think we can continue the  
14 dialogue on it but I don't really have any areas that  
15 we need further clarification on today.

16 MR. BEUSE: Okay.

17 MS. LEWIS: Still digesting.

18 MR. BEUSE: Yes, of course. So switching now  
19 to the public disclosure piece and there's already been  
20 a couple of ideas floated around are there any  
21 preliminary ideas that you can share with us about  
22 central repository, not central repository, linking,

1 not linking, maybe a big docket, maybe not. What have  
2 been some of the thoughts around this sort of public  
3 disclosure piece?

4 MS. LEWIS: Yeah. So we've just started  
5 having a conversation on this. So unfortunately it has  
6 not gone very far. It would be great to follow up  
7 maybe next week on this particular topic.

8 MR. BEUSE: Sure. Or the 6th that's fine.

9 MS. LEWIS: Yeah. I think that if a  
10 manufacturer is putting a VSSA out in the public it  
11 makes sense that they would notify NHTSA.

12 MR. BEUSE: Right.

13 MS. LEWIS: But exactly a recommendation about  
14 how a one stop shop happens, I'll have to --

15 MR. BEUSE: Or maybe one of the concerns about  
16 that if there was some task to have to tell the agency  
17 every time and put it in somewhere.

18 MS. LEWIS: Yeah, I mean one thing we had  
19 noted in our previous comments is the process for --  
20 well the current process addresses some of our previous  
21 concerns with having to -- there being ambiguity and  
22 when you need to have a new version come out.

1 MR. BEUSE: Exactly.

2 MS. LEWIS: And especially on the technology  
3 is changing so quickly. So yeah, for any concerns on  
4 that to follow up.

5 MR. BEUSE: Okay.

6 MS. SWEET: Question about the disclosure as  
7 well. I think we've seen from WAYMO the type of  
8 company, it is a little bit different as far as public  
9 interaction. In the information that they are  
10 providing given their vehicles are out there, they are  
11 public knowledge, they are being tested and people are  
12 well aware, some of the things that the OEMs are they  
13 are testing, they're deploying may mean different  
14 numbers but the websites that maybe an OEM has contains  
15 very different information I think. And I'm curious  
16 whether or not that's a VSSA about testing or  
17 deployment is something that an OEM might consider  
18 appropriate or not appropriate, how they feel about  
19 that type of material in a very public facing website  
20 that's made to sell product as opposed to inform, they  
21 are looking to sell a product and so I am just curious  
22 how that discussion goes about it being something on

1 their website?

2 MS. LEWIS: I think consumer education and  
3 awareness is really important for all of our members  
4 and so each one may do it a little differently but I  
5 would say it might be a great option for them as well.  
6 I wouldn't rule that out as an option.

7 MS. SWEET: Okay.

8 MR. BEUSE: You mean the association's  
9 website?

10 MS. LEWIS: Well, either the association's  
11 website or a member's website.

12 MR. BEUSE: Okay.

13 MS. SWEET: I'm good.

14 MR. BEUSE: All right.

15 MS. SWEET: That is all we have for this  
16 morning. So I think we are a little bit early, we are  
17 about 20 minutes early on lunch which might help to get  
18 everybody back in the building. So we will go ahead  
19 and conclude for this morning.

20 Again if you are going to travel outside the  
21 building we ask that you keep your badges and give a  
22 little time in case you have to come back through the

1 security.

2           If you have questions about where you might  
3 want to go just pop up here, I'll give you a couple of  
4 recommendations if you don't know where you are going.

5           And we'll come back here. And then we'll come  
6 back here and start up at 1:00 so if everybody can be  
7 back in the room a few minutes before 1:00 to make sure  
8 that we are ready to start.

9           We are going to do open mikes this afternoon.

10           A couple of you had registered to speak for  
11 some time this afternoon. And then we'll open it up to  
12 those individual that maybe haven't registered but feel  
13 that given the information they've heard this morning  
14 they want to make a few statements.

15           And I'm going to as the folks in the room go  
16 we will for the folks on the phone, we will be calling  
17 back in. So I'm going to get off the line for the  
18 folks on the phone. We'll call back in about quarter  
19 to one and sign back in.

20           For folks on the web there is a second link  
21 for this afternoon for those folks who need to sign in  
22 on the web. And if anybody needs that information to

1 send out to folks that they know, come and see me and  
2 I'll take care of that and get you guys the website to  
3 send back out.

4 So again thank you very much for everyone's  
5 participation this morning. It was really informative  
6 and helpful and we look forward to the afternoon.  
7 We'll see you back here at 1:00.

8 (WHEREUPON, a lunch recess was taken.)

9 MS. SWEET: ... started though. We have a  
10 couple of folks that have asked to speak. I am going  
11 to call them up first as a priority. And then if I  
12 call your name to come up and speak and come to the  
13 table the mike should be on. I can double check it.  
14 Provide your remarks and then we may have some  
15 questions for you.

16 After everyone has spoken that registered with  
17 us ahead of time we will open the mike up for anybody  
18 else that wants to make any remarks.

19 So with that we will start with Henry Jasny.  
20 Would you like to come forward please? Thank you.

21 MR. JASNY: Thank you. I am Henry Jasny with  
22 Advocates for Highway and Auto Safety. And Advocates

1 has long advanced technology to support and improve  
2 safety. But as a great American once said "Trust but  
3 verify."

4 Voluntary guidelines that can be ignored by  
5 the industry are inadequate to insure American families  
6 are not put at unreasonable risk during the testing and  
7 deployment of the promised vehicle technology. The  
8 optional safety self-assessment proposed by NHTSA in  
9 its latest AV policy illustrates the shortcomings of  
10 voluntary guidelines. No matter how comprehensive the  
11 structure of the safety self-assessment may be  
12 manufacturers can simply choose not to publish one or  
13 to provide superficial or incomplete information.

14 Advocates is pleased that WAYMO has released  
15 the first safety self-assessment to the public that  
16 could be helpful to consumers. While we don't want to  
17 pick on WAYMO; WAYMO is the only data point we have to  
18 examine.

19 There are two major problems with the document  
20 that WAYMO has submitted or issued. First it is used  
21 as an opportunity to craft a slick marketing brochure  
22 for technology and the company's product. And second

1 the submission does not provide sufficient detail and  
2 technical information to allow the public to know the  
3 safety performance of their system.

4 We need WAYMO (way more) information.

5 [LAUGHTER.]

6 MR. JASNY: Just yesterday my computer crashed  
7 but I walked away unscathed. AVs are computers on  
8 wheels. So the industry and the agency bear a heavy  
9 burden to insure crash safety in the brave new world of  
10 driverless cars. The safety self-assessment must  
11 provide the public with an honest assessment of the  
12 technology limitations as well as the capabilities.

13 Certainly in the near future not all cars  
14 including AVs will be able to avoid crashes, not all  
15 AVs will operate as designed, and the public and  
16 policymakers must be given an accurate picture of what  
17 lies ahead.

18 Advocates does not believe that manufacturers  
19 should use the safety self-assessment as a sales tool.  
20 For example WAYMO touts the fact that it has conducted  
21 more than 3.5 million miles of on-road driving  
22 experience. Testimony before Congress on this very

1 issue pointed out that New York City taxi cabs  
2 accumulate approximately 4 million vehicle miles of  
3 travel each day. Also the motor vehicle fatality rate  
4 is measured by 100,000,000 vehicle miles traveled. So  
5 3.5 million miles is a comparatively low level of VMP  
6 exposure. While Advocates understands that accruing  
7 on-road VMP takes time the 3.5 million miles statistic  
8 trumpeted by WAYMO should not be presented to the  
9 public as an unqualified and rigorous mark of  
10 distinction of the technology.

11 WAYMO's submission also touts the fact that  
12 current motor vehicle crashes often involve human error  
13 as a factor. But the company fails to mention that  
14 100% of computer programming errors involve human error  
15 as a factor. While we are endeavoring to improve  
16 safety we must never forget that we are replacing human  
17 driver error with human programming errors. Mistakes  
18 that could have widespread unintended consequences.

19 We know from defects and recalls that both  
20 people and complex systems are prone to errors and  
21 mistakes. That is why Advocates prefers a phase-in  
22 approach to AV deployment to insure public safety.

1           The safety assessment should provide enough  
2 information to consumers, researchers and the agency to  
3 properly evaluate the current state and development of  
4 the technology. For example the WAYMO document  
5 provides more specific information on behavioral  
6 competencies and test scenarios, more than what is  
7 provided in many other subject areas of the document.  
8 However even that level of detail still falls short of  
9 providing enough information for researchers or the  
10 public to understand how the systems will perform in  
11 these scenarios and what would constitute a deviation  
12 from expected performance.

13           The WAYMO self-certification addressed many of  
14 the recommended subject areas if not all of them  
15 proposed by NHTSA but in very general manner. In some  
16 cases critical details were lacking and in the end the  
17 public is still left with no assurance of safety. For  
18 example while WAYMO provided a fairly clear explanation  
19 of the SAE level of their proposed systems when it came  
20 to the cyber security the discussion was vague and it  
21 talked about the approach that builds upon best  
22 practices and includes aspects of some industry

1 standards. Instead Advocates recommends that companies  
2 identify the specific standards that they have used and  
3 which they believe all the industry should be held to.  
4 I do point out that WAYMO did refer to ISO 26262 and we  
5 compliment them for that.

6 WAYMO also provides detailed numbers on  
7 current crash statistics, societal costs and mobility  
8 and quality of life impact but provides no specific  
9 context for the results of their 3.5 million miles of  
10 testing in terms of crash rate or fatality rate  
11 particularly in comparison to human driver performance.

12 Furthermore WAYMO did not quantify the results  
13 of their work which WAYMO states was able to  
14 comprehensively analyze and evaluate the safety of  
15 self-driving system prior to operating their vehicles  
16 on public roads. If the analysis was so complete why  
17 are there no quantified results presented. The public  
18 still has no assurance that WAYMO or any other company  
19 will meet any specific level of performance to insure  
20 the protection of road users.

21 Finally beyond the information in the safety  
22 self-assessment the agency must require explanatory

1 information for each specific autonomous vehicle  
2 driving system to be provided at point of sale.  
3 Essential information should be on the label and on the  
4 vehicle in clear, concise and uniform explanations and  
5 instructions must be provided at the dealership and on  
6 the manufacturers website as well as included in the  
7 vehicle owner's manual.

8 In the end the voluntary safety assessments  
9 may amount to little more than marketing materials  
10 dressed up as consumer information. Any consumer  
11 information is helpful to some but probably not to all  
12 consumers and certainly not to others who are  
13 interested in doing research on comparative safety.

14 Advocates supports the need for consumer  
15 information but the type and quality of that  
16 information must be objective, specific and uniform to  
17 ensure that the public is able to evaluate the  
18 technology and even compare the technology between  
19 companies. However promotional materials and consumer  
20 information are no substitute for regulations to insure  
21 public safety.

22 Thank you.

1           MR. BEUSE: Thank you Mr. Jasny. Maybe a  
2 couple of questions regarding the generic template.

3           MR. JASNY: Sure.

4           MR. BEUSE: So you mentioned the use of  
5 standards as one way to -- that a company could put  
6 information out about how it is addressing the safety  
7 elements. As you know in some of those 12 areas there  
8 are no existing industry standards.

9           MR. JASNY: Right.

10          MR. BEUSE: What are your thoughts on how that  
11 could be achieved otherwise or is there a way to  
12 achieve it otherwise?

13          MR. JASNY: Well, I suspect there is a way to  
14 achieve it otherwise. I am not an engineer but I know  
15 that the companies can package and produce information  
16 about what their testing was, how they conducted it  
17 without giving away any CBI, any confidential business  
18 information, because nobody wants that. But they can  
19 package the engineering information in a way that  
20 consumers, not just consumers that are not familiar  
21 with the issue but consumers who want to take a deeper  
22 dive just like the NCAP test results are given in stars

1 as well as the raw data is available to consumers.  
2 Consumers learn in different and have the ability to  
3 understand at different levels. TRB the report on this  
4 years ago shopping for safety. Some consumers just  
5 want you to tell them this works or this is the high-  
6 quality level or whatever that is. Other consumers  
7 would be happy with the WAYMO product except they may  
8 feel it is too long because it does explain what they  
9 are doing and has a lot of catch phrases and terms of  
10 art. But there are other consumers and researchers who  
11 want to know much more about the specifics. And we  
12 think that a lot of the specifics can be divulged  
13 without divulging CBI. I'm sure that the same people  
14 that have engineered this great technology that their  
15 communications people can figure out a way to impart  
16 that information to consumers who want that  
17 information, want more detail without giving away  
18 confidential business information. For example WAYMO  
19 gives a list of the different behavioral types of  
20 things that they looked at but they didn't explain what  
21 each one was or how they dealt with it or what the  
22 results were.

1           And the other thing is that the Acting  
2 Administrator mentioned transparency. Transparency is  
3 not only transparency about what is working and what's  
4 successful. It is about what the challenges are, what  
5 hasn't worked out especially if your ODD doesn't allow  
6 you to operate in all circumstances and all conditions.  
7 You really have to talk about why that is. But we give  
8 credit to WAYMO for talking about the redundancy that  
9 they have in their vehicles and talking about the  
10 sensor PRAs that they have.

11           MR. BEUSE: Great. I don't remember if you  
12 touched on it but one of the topics that came up this  
13 morning is the issue of where to house these things or  
14 how would people find them. Do you have any  
15 preliminary thoughts on that whole issue?

16           MR. JASNY: Well, we're generally agnostic  
17 about that except that NHTSA is the place that most  
18 Americans turn to for information about vehicle safety.  
19 And so just like safercar.gov has a portal to  
20 manufacturers websites, that might be one way of  
21 organizing the information with a drop-down menu of all  
22 the vehicle manufacturers or all the AV manufacturers

1 and the consumer could click on which one they wanted  
2 to find out about.

3 MS. SWEET: You mentioned three words objective  
4 specific and uniform with respect to the contents of  
5 the self-assessment. Does that mean you are in favor  
6 of a very specific set format with specific content,  
7 checklist type things? Or are you more interested in  
8 seeing the flexibility that manufacturers entities have  
9 now?

10 MR. JASNY: Well, in the context of the safety  
11 voluntary self-assessments we don't want a checklist.  
12 But the template that you are talking about does have  
13 value in terms of letting a consumer who is not that  
14 knowledgeable compare apples to apples. To be able to  
15 look at one section of one companies' brochure and be  
16 able to compare it to the same section of another  
17 companies' brochure, that's very helpful. But the real  
18 touchstone is what is the quality of the information  
19 that is being imparted and whether there is any  
20 quantified information that's provided.

21 MS. SWEET: Thank you.

22 MR. BEUSE: Going back to the central

1 repository or not central, whatever we're calling it,  
2 do you have any preliminary thoughts about what was  
3 raised this morning about is it better to have just the  
4 most current version of someone's voluntary self-  
5 assessment or is there a need to kind of go back, and  
6 kind of imagine three, four, five years from now and  
7 assuming there's 40 or so entities that are submitting  
8 all these and multiple different versions. Do you have  
9 any preliminary thoughts on that whole thing?

10 MR. JASNY: Sure. You are asking the wrong  
11 person because I still have the comments I filed in  
12 1990 to the agency in paper form in my files. So I  
13 believe in archiving this. It should -- since it is  
14 electronic it could be there very readily just like I  
15 want to look up a bank statement of mine from five  
16 years ago, it is there on the web. All that  
17 information whether it's a new one or just a revised  
18 one probably you should revise it every time there is a  
19 change but only come out with a new one when there is a  
20 major substantive change. If WAYMO went to L-3  
21 vehicles they should probably come out with a new one.

22 MR. BEUSE: Uh-huh.

1           MR. JASNY: But short of that probably revise  
2 it. And I'm not big within the electronic age with this  
3 thing of annual updates. If they are changing  
4 something, if they are making something significant --

5           MR. BEUSE: Right.

6           MR. JASNY: -- the public should know about  
7 they could do that on the fly --

8           MR. BEUSE: Right.

9           MR. JASNY: -- in real time.

10          MR. BEUSE: Great. Thank you, Mr. Jasny.

11          MS. SWEET: Thank you.

12          MR. JASNY: Thanks.

13          MS. SWEET: Can we have David Friedman come  
14 take a seat.

15          MR. FRIEDMAN: Dan's not messing with my  
16 chair.

17          Hello.

18          MS. SWEET: Hello.

19          MR. FRIEDMAN: So I'm David Friedman. I'm the  
20 Director of Cars and Products Policy and Analysis at  
21 Consumers Union, a Division of Consumer Reports.

22          There are a few points I'd like to make and

1 then also happy to address any questions.

2 First off thank you to NHTSA and the  
3 Department for hosting this event. I think it is  
4 really important to have public dialogues on these  
5 issues. We'll certainly be filing comments to the  
6 docket.

7 But I think we are literally talking about the  
8 future of automation, the future of mobility in this  
9 country and having transparent clear dialogue and  
10 transparent clear processes is going to be critical to  
11 insure the safety and security of Americans for decades  
12 to come.

13 We've heard the number before but it bears  
14 repeating over and over and over again that 37,461  
15 lives were lost in 2016 alone and that that is the  
16 second year in a row of increases in fatalities. Part  
17 of what that shows is that cars still aren't safe  
18 enough. Part of what it also shows is that more needs  
19 to be done to address the issue of driver error.

20 I think everyone realizes that vehicle  
21 automation has amazing potential to be a part of that.  
22 The hope is ultimately it will solve driver error

1       though as was previously noted it won't solve human  
2       error. As long as there are humans there will be human  
3       error and so that is something that obviously the  
4       enforcement side and more have to be able to deal with.

5               One of the most important things as we think  
6       about what auto makers are doing and what NHTSA is  
7       doing in this space is that not only must safety be  
8       their top priority but automakers have to show not just  
9       tell us that that is their top priority. And part of  
10      what that comes down to is sharing more data. And in  
11      general being more transparent overall.

12             The one thing that shouldn't happen is that  
13      folks misread the current consumer mistrust in the  
14      technology. Multiple surveys have shown that trust  
15      levels are in the teens or low 20s. But no one should  
16      misread that as an indication of need for a broader PR  
17      campaign. That's I think misunderstanding part of why  
18      consumers have this lack of trust.

19             The airline industry experiences this every  
20      single day and has had a transformation in safety  
21      because of it. Because the airline industry is dealing  
22      with a situation where consumers have no control over

1 the operation of their vehicle. And because of that  
2 the standards for safety go through the roof. It is  
3 not enough to just simply be as safe as a vehicle on  
4 the road today, with 37,461 fatalities each year  
5 clearly maintaining that level should not be the goal  
6 of anyone in the industry or in the agencies.

7 The goal has to be dramatically increasing  
8 safety with the understanding that consumers get that.  
9 Consumers get that if they are no longer going to be  
10 controlling the vehicle their expectation for safety is  
11 not going to be a 10% improvement, a 20% improvement or  
12 even a 50% improvement. It is going to come close to  
13 expecting no deaths. And that is why a PR approach is  
14 not the right way to do it.

15 The right way to do it is to ensure that  
16 consumers, organizations like mine and the agency has  
17 the data to understand how safe these vehicles are and  
18 how automakers are insuring that they are safe. And  
19 obviously the key to that is transparency.  
20 Transparency ultimately equals trust.

21 And I would say as part of this process and  
22 this is really speaking directly to the car companies

1 involved and other suppliers transparency builds trust  
2 and you shouldn't be afraid of being transparent if  
3 you're doing things well. And you should understand  
4 that if you aren't being transparent people are going  
5 to make assumptions. And those are not irrational  
6 assumptions. Those are assumptions based on even  
7 recent history, whether it is the GM ignition switch or  
8 Takata Airbag or other problems or people's perceptions  
9 around aircraft safety, people are not going to start  
10 off by trusting. They are not going to start off by  
11 assuming that what you are telling them is true. They  
12 are going to want you to prove it and they are going to  
13 look to organizations like Consumer Reports and others  
14 to help validate that those claims are true.

15           And if you don't give us enough data we're not  
16 going to be able to do that and we are going to be in a  
17 position to make assumptions as well.

18           Part of this is the issue of competition and I  
19 understand the importance of competition and that  
20 companies are jockeying for who can be in the lead on  
21 this because there is a lot of money to be made. But  
22 that competitive push should not overwhelm transparency

1 and the need for cooperation. That will come back to  
2 bite you in the end. Maybe not in one year, maybe not  
3 in two years but it will happen because something will  
4 go wrong. And the last thing we need is for this  
5 technology to be slowed down because some bad actor  
6 makes a mistake and it turns the public even further  
7 against this critical technology.

8 I would also say that companies should not  
9 limit themselves in their submission to what NHTSA lays  
10 out in the guidance given this need, given the consumer  
11 need for more information. Yes, the guidance and the  
12 information in it is voluntary for NHTSA but it is not  
13 voluntary for building consumer trust. And that is why  
14 I would say automaker should go beyond what is even in  
15 there and include issues like data sharing, privacy,  
16 ethics, registration and other issues that folks maybe  
17 feel were too preliminary for NHTSA to include but  
18 again those issues are not too preliminary for  
19 consumers to understand what's happening.

20 I would also strongly argue that companies  
21 doing Level 2 automation should also voluntarily submit  
22 all applicable information if for no other reason than

1 the evidence is showing that consumers are using Level  
2 2 vehicles as Level 3 vehicles. Yes, you can argue  
3 that that is not how they were designed and it is "the  
4 consumer's fault" but that is the very definition of  
5 foreseeable misuse. There is a lot more education and  
6 information needed there.

7 I would also say automakers should share  
8 summary performance data with the public and share the  
9 details with the states and with NHTSA on crash rates  
10 overall, crashes avoided and much more, areas that if  
11 the data library is built up people can understand how  
12 fast the progress is moving, how safe the different  
13 products are which can be critical information for  
14 consumers when they go in to buy a vehicle.

15 I would also argue in terms of a federal  
16 repository I think that would be critical. There needs  
17 to be one place where this information is available.  
18 The VIN lookup tool is a great example of that, asking  
19 consumers to track down on automaker websites including  
20 sometimes in very fine print where the recall  
21 information is, it is just not a realistic expectation.  
22 NHTSA is the leader in this space and I think can and

1       should host this kind of information. I would even add  
2       like we do at Consumer Reports when there is a vehicle  
3       with Level 2 autonomy and we're rating the vehicle we  
4       put a flag on that to let consumers know that this is a  
5       unique vehicle. It has these autonomous features. And  
6       over time we want to make sure to build in links to  
7       that so the consumers can find out more.

8               I would very much argue the same for NHTSA  
9       safety rating system. It should be clear which  
10       vehicles take some or all control from the driver so  
11       that when they are looking up that safety information  
12       and told there are safety ratings for automation there  
13       at least needs to be transparency for consumers. And  
14       again NHTSA is in a critical place to provide that.

15              I would also say that, I'm not going to get  
16       into the format of things. I do think there are some  
17       benefits to trying to stick with a template and making  
18       sure you answer each of the 12 items. But I go back to  
19       the fact that details are more important. And maybe you  
20       need different tiers of information. Maybe there is a  
21       general public version and an appendix or something  
22       else that has more details. And if there is CBI

1 involved make sure NHTSA gets that when you submit it  
2 to NHTSA mark out the CBI yourself, don't waste NHTSA's  
3 staffs time having to mark out your CBI. But share  
4 that information with NHTSA so that they can analyze  
5 things and share aggregated versions of that  
6 information with the public to build that trust.

7           Last two issues. One is I think these safety  
8 assessments should absolutely be updated regularly. In  
9 a world today where the features on consumer's car can  
10 literally change overnight it is critical that the  
11 public has information. Honestly you shouldn't wait to  
12 update a safety assessment. You should be posting this  
13 on your web. You should be insuring that your consumers  
14 get live information and updates with enough details so  
15 they can truly understand as has happened for example  
16 with one company where they've turned AEB on and off.  
17 Well even in a Level 3 vehicle because there is the  
18 potential for humans to take over if they change the  
19 ODD or change other features of how it works that must  
20 be transparently communicated to the consumer right  
21 away when it happens, but it should also very soon  
22 after be updated in these public submissions.

1           Last but not least and I know this is not at  
2 all the subject of this panel but I think about the  
3 future of automation and how similar of a world we are  
4 moving in to hopefully to airlines. I'd also remark  
5 that FAA had roughly a 16:1 budget ratio to NHTSA and I  
6 think that highlights if we are going to move into this  
7 world how critical it is going to be for everyone in  
8 the room and everyone listening to support insuring  
9 that NHTSA has additional resources to insure the  
10 safety of these vehicles going forward.

11           Thank you.

12           MS. SWEET: Thank you.

13           MR. BEUSE: Thank you Mr. Friedman for your  
14 thoughtful comments. Couple of quick questions maybe.  
15 And you touched on this a little bit but given your  
16 role at Consumer Union and Consumer Reports how  
17 feasible is it do you think that we could develop or if  
18 it is even necessary some sort of criteria about this  
19 tricky line between too little like Mr. Jasny suggested  
20 kind of looking like marketing and too much just sort  
21 of not being helpful. There are some pointers there  
22 you think?

1           MR. FRIEDMAN: Well, I do think that's where  
2 as you indicated at least hinting at that with the  
3 concept of maybe there is an appendix or maybe there  
4 are multiple versions of the submissions. I think it  
5 is great to educate the public on what you are doing  
6 and the features; that is critical. But you can't  
7 overwhelm the general public with data. That won't  
8 ultimately serve them. But you do need to have,  
9 whether it is an appendix or a separate submission or  
10 two depending on you know CBI involvement or not, there  
11 needs to be and maybe this is where templates would be  
12 even more helpful. Maybe you don't need a template for  
13 the more public higher-level stuff but for the  
14 information that researchers and states and NHTSA needs  
15 I would strongly encourage folks to work together to  
16 develop a template on what kind of data, what kind of  
17 information would be critical and maybe work out ahead  
18 of time with the industry what of that is likely to be  
19 CBI and how to handle that carefully. But again I'd go  
20 back to what I said before don't let -- transparency is  
21 your friend and if you are afraid to share the data  
22 with NHTSA then there is reason for us to worry.

1           MR. BEUSE: Thank you for that. Maybe a  
2 second question. You also touched on this but I think  
3 I have to ask it maybe in a different way, so you  
4 talked a lot in your remarks about consumers and the  
5 need to access this information and so did Mr. Jasny.  
6 So we have the first one, there was a press release  
7 with it. There was a lot of kind of fanfare about it.  
8 I imagine that is not going to be the case at some  
9 point, I assume it is going to become more routine.

10           MR. FRIEDMAN: Uh-huh.

11           MR. BEUSE: What's your thought on when it  
12 reaches that stage, what do we do with it; right? Is  
13 it some other role for somebody else to play? I mean  
14 is there going to need to kind of -- safety self-  
15 assessment and does that really solve anything? What's  
16 the balance you were trying to do. One is how consumer  
17 understands that folks are thinking about safety and on  
18 concrete area not just accumulating knowledge but  
19 actually in really concrete areas and that there is a  
20 place for them to find that. But you know you balance  
21 that with sort of email blasts every time somebody  
22 changes one. I'm not sure how to strike that balance.

1           MR. FRIEDMAN: Right. I would say a couple of  
2 things. Respectfully I would discourage the department  
3 from using the submission of these as an opportunity to  
4 highlight any particular company especially without a  
5 clear bar as to what is a good and not a good  
6 submission. I think that veers on endorsement and I  
7 think there is a challenge and should be avoided.

8           I think that each company can have their PR  
9 strategy and that's thoroughly appropriate. I think  
10 that if you have an online repository and you have an  
11 education tool that make sure that the consumers are  
12 aware that that is available. I think that is a more  
13 appropriate way as they come in. And again I go back  
14 to including it on [safercar.gov](http://safercar.gov) with the vehicle safety  
15 ratings and certainly organizations like ours, Consumer  
16 Reports, when these things come out we will probably do  
17 some assessments of them and of the vehicles, certainly  
18 we'll assess them, that's what we do. So we will  
19 certainly try to call attention to these issues. But I  
20 think in this case NHTSA and DOT's role is more to have  
21 a repository that consumers can access in the same way  
22 they access critical safety information today. But

1 maybe there is a role also for updating states or  
2 researchers on a monthly or quarterly basis; here's the  
3 latest information we've got so that they can be ready,  
4 willing and able to be involved as well. But I don't  
5 think a massive public blast is what's needed.

6 MR. BEUSE: Okay. Great. Debbie?

7 MS. SWEET: In thinking about like your idea  
8 of like a tiered submission or assessment whatever it  
9 becomes do you run the risk then of overburdening an  
10 entity to the point that what has become a voluntary  
11 publication has now become too burdensome that they are  
12 not going to publicize it anymore?

13 MR. FRIEDMAN: I mean that gets to the whole  
14 nature of this being voluntary which is I think as Nat  
15 said at the beginning not the goal of this  
16 conversation. But --

17 MR. BEUSE: Feel free to say it.

18 MR. FRIEDMAN: You know me, I will. But I  
19 think that on the one hand that is one of the  
20 challenges here; right, is that this is voluntary and  
21 that allows bad actors to just skip out of it. That is  
22 in part the role for organizations like mine to put

1 pressure on companies like that to follow through. I  
2 go back to two things that I said before. One is that  
3 if you are doing your job you have nothing to hide and  
4 this isn't a burden. In fact, this is critical to the  
5 success of this technology because if you are not  
6 transparent and mistakes pile up you are going to turn  
7 the public even more against this technology. And you  
8 are going to be effectively responsible for not  
9 deploying technologies that can save a lot of people's  
10 lives. So you've got to be transparent. So there may  
11 be companies who respond with the burden argument.  
12 Transparency should never be considered a burden  
13 argument. And if a company is arguing it is a burden,  
14 again I'd go back to question their thought processes  
15 or motivations behind that because this is technology  
16 that is going to ideally transform this country and the  
17 world in terms of safety and mobility. We've got to  
18 get it right the first time.

19 MS. SWEET: I'm done.

20 MR. BEUSE: That's it for me. Mr. Friedman  
21 thank you.

22 MS. SWEET: Von Lindsey please.

1           MR. LINDSEY: All right. Thank you for this  
2 opportunity. I'm Von Lindsey with Lindsey Research.  
3 We've been a resource for industry and government for  
4 over 20 years. We love NHTSA data. And we love to see  
5 where this is all going. It is pretty exciting.

6           As far as the voluntary self-assessment and  
7 the data recording portion it is interesting that Mr.  
8 Friedman mentioned bad actors. I'm fairly certain that  
9 NHTSA has the authority to use special crash  
10 investigations to go out when there is a fatal accident  
11 and gather data. And so it may be helpful to request  
12 or provide for particularly new entrants some of the  
13 data fields that are included in that kind of an  
14 investigation. Not that they would put that in their  
15 assessment but they would be aware and maybe create a  
16 program to make sure that their data is available. I  
17 mean what's amazing is when you think about Part 563  
18 the black box or EDR and you think about these vehicles  
19 that are coming out now, the data, the cameras, the  
20 sensor, it is just tremendous what they could provide.  
21 And so that is something that even down to the  
22 nomenclature and taxonomy of how those fields are

1 determined is critical. I know NHTSA is working with  
2 SAE to kind of get that established. But that's a  
3 great starting point. So that is one area.

4 The second, both these guys stole my thunder,  
5 because I love the VIN, I love the VIN look up, I love  
6 safercar.gov. I'm going to take a quick survey here.  
7 Who's used safercar.gov here?

8 That's beautiful, isn't it.

9 [LAUGHTER.]

10 MR. LINDSEY: You can take a VIN and look in  
11 there and find out if you have an open recall. Now who  
12 does that? Consumers who care. Right. NHTSA provides  
13 the data and if you are smart enough to go and check  
14 and you can find out if there is an open recall. So  
15 these ideas that I think are fantastic of the  
16 repository or an area where people can go look up about  
17 different AVs and systems, fantastic. And you can  
18 either provide a link to the manufacturer's website and  
19 put the pressure on them to keep that up to date or you  
20 can request it on an annual basis.

21 The other thing when you think about it these  
22 cars are so advanced now that hopefully manufacturers

1 will provide in-car update information. And if I was a  
2 manufacturer, I might get in trouble for this, but I  
3 don't care, I would say put some mandatory training in  
4 your HMI when there is an update. That is another  
5 thing to consider so that when you are talking about  
6 consumer education, oh, I just got an update on my  
7 fancy new Level 3, thank you, but how does it work.  
8 And if there is an in-car tutorial, that is a good  
9 possibility.

10           The other thing that in the long-term view I  
11 really do love the vehicle identification number, 17  
12 digits tells you what type of vehicle it is, year,  
13 model, everything. You could add to that under the  
14 power train section for manufacturers is this an AV.  
15 And for tracking that down the road that would be very  
16 helpful particularly for researchers when you are  
17 looking at FARS data or other data to see how well some  
18 of these systems are working you need to know which  
19 vehicles have those systems in place. So that may  
20 require some regulatory action.

21           But anyway those are some of my thoughts.  
22 These kind of meetings are fantastic because you get

1 interchange and so thank you for hosting it and I had  
2 some other stuff but I might save it for November 6.  
3 So thank you very much.

4 MR. BEUSE: Thank you, Mr. Lindsey.

5 MS. SWEET: So just in thinking about just  
6 what you said and related to the VIN being able to  
7 associate the AV with the VIN does create some problems  
8 and run the risk of potentially putting out bad  
9 information if there is a crash that is associated with  
10 automated technology that perhaps wasn't used or  
11 associated with the crash itself. So relating it to a  
12 VIN does create some problems in that respect.

13 MR. LINDSEY: Explain that to me again. If the  
14 VIN says this has the technology and there is a crash  
15 and it didn't actually have the technology?

16 MS. SWEET: It didn't --no it wasn't active,  
17 it wasn't turned on.

18 MR. LINDSEY: It wasn't engaged. Yeah and you  
19 are going to run into that with after-market as well,  
20 that is a nightmare scenario so I don't know --

21 MS. SWEET: It does create a little bit of  
22 difficulty because of the public perception. We don't

1 want attribute crashes or incidents to technology that  
2 didn't -- wasn't at fault in a crash. So associating  
3 it with Av is challenging.

4 MR. LINDSEY: Yeah, that is a good challenge  
5 and I think this later today is talking about  
6 challenges so maybe there are smarter people here that  
7 might have a suggestion for that. And there was a  
8 great article in Automotive News a couple days ago  
9 about transparency and when there are these crashes  
10 that the manufacturers -- it needs to be determined  
11 fairly quickly was it the AV system or was it another  
12 driver and let the public know that. And then NHTSA  
13 does have that ability to go in and really find out.  
14 But that kind of transparency hopefully helps build  
15 public trust.

16 I mean the numbers that are being thrown out,  
17 37,000 fatalities and if you have a fatality which will  
18 happen with these new systems, it just needs to be out  
19 in the public and figure out -- and there are learning  
20 possibilities there.

21 MR. BEUSE: Thank you Mr. Lindsey. So a  
22 couple of questions for you. So you mentioned the -- I

1     guess we'll call them the start-up companies or  
2     something like that.  Is what you are implying sort of  
3     like having a template is helpful for those folks and  
4     we should actually be thinking about more and different  
5     types of information to provide to them as well?

6             MR. LINDSEY:  Sure.  I think so.

7             MR. BEUSE:  I want to talk about this central  
8     repository thing and just kind of pull that apart a  
9     little bit because since you are -- I'm not sure if you  
10    have a chair upstairs but you are pretty well known  
11    around the building.  So this idea of thinking kind of  
12    three, four years down the road.  I've mentioned this  
13    before and asked other panelists the same question.  So  
14    imagine there are 40 companies now, 50, whatever, some  
15    big number of companies.  They might have multiple  
16    systems.  Some make all three, some make all four,  
17    whatever.  As a researcher who is using that  
18    information how do you see that being most useful for  
19    you in sort of these voluntary self-assessments?

20            MR. LINDSEY:  That is a fascinating question  
21    because if and we are talking somewhat hypothetical  
22    here but let's say you are looking at a 2018 model with

1 a certain AV system; right. And then it is updated, it  
2 seems unlikely to me that that may not get updated as  
3 well through in-vehicle updates; right.

4 MR. BEUSE: Right.

5 MR. LINDSEY: So if it is updated it is maybe  
6 less important. But if that 2018 vehicle is based off  
7 of that self-assessment then yeah, you need to make  
8 that available. And that is where maybe tying a VIN  
9 back into it would be helpful so you know based on this  
10 11 digit or 12 digit that this was a 2018 model vehicle  
11 with that system then that would match up to this self-  
12 assessment.

13 MR. BEUSE: Right.

14 MR. LINDSEY: So archiving it is critical for  
15 sure but it would be interesting to see how many models  
16 stay static instead of dynamic if you will.

17 MR. BEUSE: All right. I think that is all I  
18 had.

19 MR. LINDSEY: All right. Thank you for your  
20 time. Appreciate it.

21 MS. SWEET: David Kidd.

22 MR. KIDD: Shuffle his chair.

1           MR. BEUSE: Mr. Friedman is not paying  
2 attention.

3           MR. KIDD: Okay. So my name is David Kidd.  
4 I'm a Senior Research Scientist at the Insurance  
5 Institute for Highway Safety.

6           The Insurance Institute for Highway Safety  
7 commends NHTSA continued support of the deployment of  
8 automated driving systems. As the agency expressed in  
9 the revised guidance document automated driving is  
10 projected to eliminate nine out of every ten serious  
11 crashes that stem from human error or behavior. We  
12 need to seize this unprecedented opportunity to save  
13 tens of thousands of lives each year as we take prudent  
14 steps to maximize the full safety potential of  
15 automated driving technology.

16           In the short term the actual safety benefits  
17 likely will fall short of these expectations just as  
18 airbags have not prevented all crash deaths, electronic  
19 stability control has not prevented all loss for  
20 control crashes and automatic emergency braking systems  
21 have not prevented all front to rear crashes.

22           To understand how systems are working in the

1 real world it is imperative that NHTSA collect  
2 information that it and other stakeholder and the  
3 public can use to independently assess the safety  
4 benefits of automated driving systems and to promote  
5 those that are most effective for reducing crashes,  
6 deaths and injuries.

7 The voluntary safety self-assessment provides  
8 the agency and the public with information that could  
9 be helpful for evaluating the safety of automated  
10 driving system. But the usefulness depends on what  
11 companies deploying the technology choose to submit.

12 We are pleased that WAYMO voluntarily  
13 submitted its self-assessment to the Department of  
14 Transportation and shared it with the public. In its  
15 self-assessment WAYMO broadly described the hardware  
16 and software that enables its automated driving system,  
17 the vast quantity of simulated and on-road miles  
18 traversed and the steps the company is taking to insure  
19 safety. Although the document is a good general  
20 introduction to self-driving technology and WAYMO's  
21 approach in particular it offers no evidence that the  
22 millions of miles of testing on public roads, billions

1 of miles of simulated driving and various safety  
2 assessments during the development and deployment of  
3 the automated driving system has yielded a system that  
4 is safe or safer than a human driver within its  
5 operational design domain.

6 The institute expects other companies will  
7 follow WAYMO's lead, submit safety self-assessments but  
8 like WAYMO we anticipate that these reports will  
9 advertise the safety of automated driving technology  
10 without presenting evidence to support the claim.

11 Based on the revised guidance document the  
12 Agency also has no specific plans for collecting  
13 information that could allow it to assess the real-  
14 world safety of automated driving systems, validate the  
15 claims made by companies deploying them, or reasonably  
16 judge whether exemptions from federal motor vehicle  
17 safety standards which is being contemplated in pending  
18 legislation are justified.

19 NHTSA must take the lead in collecting this  
20 information by creating and maintaining a public  
21 database of vehicles with automated driving technology  
22 also those that are exempt from federal motor vehicle

1 safety standards which is indexed and searchable by the  
2 vehicle identification number or VIN.

3           Each vehicle sold in the U.S. has a unique VIN  
4 as Von Lindsey was saying researchers we've long used  
5 VINs to evaluate the safety benefits of vehicle  
6 features when those VINs can be tied to crash and  
7 exposure data. The VIN standard requires certain  
8 information be encoded but excludes the presence of  
9 optional crash avoidance features and automation making  
10 evidence based evaluations of these type of features  
11 very difficult.

12           When evaluating effects of various driver  
13 assistance systems on police reported crashes and  
14 insurance claims IHS and our sister organization the  
15 Highway Loss Data Institute work with manufacturers who  
16 are willing to provide special samples of VINs of  
17 vehicles that were fit with technologies. The studies  
18 based on these data were the first ever to document the  
19 actual crash and injury preventing benefits of forward  
20 collision warning and automatic emergency braking. And  
21 it was actually crucial in negotiating the commitment  
22 by 20 automakers to make automatic emergency braking

1 standard feature by September 2022.

2 NHTSA has been unable to measure the real  
3 effect of these systems on its own because it lacks  
4 access to similar data. Likewise the agency will not  
5 be able to evaluate automated driving systems unless it  
6 begins collecting this type of information immediately.

7 Archival crash data will allow the real-world  
8 safety benefits of technologies to be measured but  
9 provide little or imprecise information about the  
10 contributing factors in the moments before the crash  
11 and in vehicle performance afterwards. For this reason  
12 objective information about the behavior of automated  
13 driving systems in crashes must be collected and it can  
14 be accomplished by using event data recorder, black  
15 boxes.

16 The institute has developed a list of data  
17 elements that we believe can be collected using an  
18 event data recorder and are sufficient for  
19 understanding the circumstances of a crash and the  
20 contribution of automated driving technology without  
21 compromising confidential business information. The  
22 information will help determine whether the human or

1 the vehicle was in control at the time of the crash as  
2 well as the actions that each entity took prior to the  
3 crash. Importantly law enforcement agencies and  
4 insurance companies need this type of information to  
5 assign liability and settle claims.

6 So in conclusion the potential safety benefits  
7 of automated driving technology are too profound to go  
8 unmeasured. Analyses comparing real world crash  
9 experience with and without automated driving systems  
10 and different implementations of the technology are  
11 fundamental to understanding the effects on safety.  
12 Knowing the presence or absence of these systems at the  
13 VIN level is a cornerstone for carrying out these type  
14 of evaluations.

15 Creating a public VIN index database listing  
16 vehicles equipped with automated driving systems and  
17 those exempt from safety standards as well as mandating  
18 event data recorders that would record automated  
19 driving system information are crucial for bolstering  
20 NHTSA and other stakeholder efforts to precisely  
21 measure the real world safety effects of automated  
22 driving systems, fostering public confidence in the

1 technology and directing the evolution of the  
2 technology to swiftly realize the anticipated safety  
3 benefits.

4 MR. BEUSE: Thank you, Mr. Kidd.

5 It is worth nothing I think as Mr. Lindsey did  
6 but I don't know if everybody heard him, you know, we  
7 are working with SAE already on the elements that would  
8 potentially go into some sort of -- we will call it  
9 something other than an event data recorder for these  
10 more advanced systems. And so the elements that you  
11 guys have thought about I think would be great to get  
12 to that committee that's working on that. So either  
13 see me afterwards and we'll share how to make that  
14 happen.

15 Kind of related to that so we had this idea of  
16 this generic element that we tried to do and we picked  
17 sort of crashworthiness as an element to kind of do  
18 that with because its particularly complicated. Do you  
19 see then a need to do a sample for each one of those or  
20 what is your thought about that? So we were trying to  
21 do just for one element and say this is how you could  
22 do it for others but maybe that is not sufficient.

1           MR. KIDD: I mean I misunderstand your  
2 question, are you talking about --

3           MR. BEUSE: Whether there is a need to do a  
4 template for each of the 12 elements --

5           MR. KIDD: Okay.

6           MR. BEUSE: -- in order to get at some of the  
7 issues you were talking about.

8           MR. KIDD: Sure. So with regards to self-  
9 assessment I mean one of the comments we made on the  
10 earlier guidance document was to be more specific about  
11 what types of information would be helpful for the  
12 agency and the public to have in order to understand  
13 whether or not a specific element was addressed  
14 appropriately and whether or not safety was insured.  
15 The template is helpful for at least guiding companies  
16 about the information that is of interest. However, I  
17 do think that is important to lay out kind of at least  
18 a minimum set of elements that need to be in there  
19 because those will be critical for at least the  
20 government or the general public consensus is that  
21 these are critical for understanding whether or not  
22 safety and due diligence have been done.

1           With that I also agree with previous comments  
2           that it is possible to provide aggregated safety  
3           information to justify claims rather than generic  
4           descriptions of how safety or process what's in place  
5           to address to address it.

6           MR. BEUSE: So along those lines being a  
7           consumer information organization yourselves do you  
8           think there's further information that could be  
9           provided or further guidance on how to walk this fine  
10          line between too much information that just becomes  
11          kind of unbearable I guess at some point versus  
12          something that looks more like companies are trying to  
13          showcase and sell technology.

14          MR. KIDD: Sure. I mean I think one of the  
15          important things is just having the information made  
16          available. And not just information, a very high level  
17          that is descriptive, information that can be used by  
18          organizations like IHS or Consumer Reports to package  
19          it in a way that's meaningful to consumers but also is  
20          meaningful in the sense that it is comparing different  
21          products or at least able to track how a product has  
22          evolved or how it compares to whatever standard of

1 safety that you need. And so that may not be something  
2 that NHTSA needs to accomplish within the safety self-  
3 assessment but by collecting that information and  
4 making sure the information is good enough to support  
5 such efforts and making it available especially in an  
6 archival format I think would be sufficient to enable  
7 other organizations to be able to take on that task and  
8 provide consumers with what does this all mean.

9 MR. BEUSE: Uh-huh. So maybe tying a couple  
10 of themes there I guess what I'm hearing and maybe you  
11 can just second guess me if you think I'm not getting  
12 this right. But it seems like what I'm hearing is  
13 there's a need maybe for qualitative information but  
14 also there seems to be this desire for quantitative  
15 information. Is that what I'm hearing?

16 MR. KIDD: So qualitative information is  
17 important to fully understand an automated driving  
18 system, where it is actually supposed to operate, how  
19 it functions and things like that. So if you have the  
20 quantitative information so we'll just take for example  
21 crash data. Say we have that public database of VIN so  
22 we can tie the crash data and for us exposure data

1 insure as in insured vehicle years. We would want to  
2 make sure that our analyses to be really -- there was  
3 the concern brought up earlier about you get a general  
4 idea about crash experience but you don't know if the  
5 system is on or off. Well, one way to assist with that  
6 or at least kind of weed out some of the noise is if we  
7 know how an automated driving system operates and where  
8 it is supposed to operate then we kind of exclude those  
9 crashes where we know that that system was not  
10 applicable. And so that helps, having that qualitative  
11 information that we compare with the quantitative  
12 information allows us to not only evaluate a system but  
13 do it fairly.

14 MR. BEUSE: Okay. Great. Switching to the  
15 public disclosure piece of this in making these  
16 available what are your preliminary thoughts on sort of  
17 repositories and companies' websites and things like  
18 that?

19 MR. KIDD: I think having a central place  
20 where all this is assessable is a good one. If you have  
21 it spread out across a number of different sources then  
22 people may not be able to compare on their own or may

1 miss some things. I think as when there is an update  
2 to a document that that update should be front and  
3 center but of course if people are curious about what  
4 the previous versions or what the previous status were  
5 that that needs to be available too. So whether that  
6 is in an archive format on a separate page or if it is  
7 linked -- actually underneath this top line, however is  
8 best, most suitable. But it is something that I think  
9 NHTSA should at least in the beginning collect that  
10 information and start hosting that information whether  
11 or not it stays there or they provide the backbone for  
12 that for another entity however it unfolds.

13 MR. BEUSE: I see. Okay. Great. Thanks.

14 MS. SWEET: So I kind of heard a couple of  
15 things. Evidence based database or data centered  
16 information and I pulled out that it sounds like you  
17 want metrics for each of the safety elements. And is  
18 that correct, is that something that you are looking  
19 for, identifying and establishing metrics so that they  
20 are comparable from assessment to assessment?

21 MR. KIDD: So in our view a voluntary self-  
22 assessment in the way that it is framed out right now

1 and at least with the one example that we have is not  
2 going to be sufficient for independent evaluation of  
3 the safety of these technologies. I think it is  
4 important but I am trying to better understand what a  
5 technology is and how it could be used to guide  
6 additional or future assessments. If a company wants  
7 to make safety claims and that document is the only way  
8 that they can justify that the safety claims are valid  
9 then it is going to need quantitative information. The  
10 actual metrics I think are at this point not clear.  
11 But if you have simulated crashes or you have actual  
12 crashes occurring on the road those are clear metrics  
13 that are indicative of how safe it is especially when  
14 you can compare it to the typical human experience.

15 MS. SWEET: And you would look for that  
16 included in the self-assessment?

17 MR. KIDD: Correct. Yeah.

18 MS. SWEET: Okay. Is that going more towards  
19 a researcher route though as opposed to increasing  
20 public trust for the self-assessment to being we put it  
21 out as this is a means for companies to increase public  
22 trust and inform about the product and the safety and

1 after taking things inconsideration is it moving too  
2 much into the research realm by including that data?

3 MR. KIDD: So it depends what you want from  
4 the safety self-assessment. If you want it to be  
5 something that is specifically for the public so they  
6 can learn more about what products are out there and be  
7 assured by companies and the government I guess by  
8 approving or validating this is a case that they have  
9 taken steps considering safety and all that then that  
10 is the more generic description is kind of along those  
11 lines. But if the safety self-assessment is really  
12 intended to try and aggregate information from  
13 companies in this space in a way to derive meaningful  
14 conclusions about the relative safety of the technology  
15 as compared to each other as well as to the human  
16 driver then you are going to need some type of  
17 quantitative information to justify those claims not  
18 just qualitative information. So it really depends  
19 upon on NHTSA envisions the safety self-assessment's  
20 purpose is.

21 MR. BEUSE: Yeah. And I think that is a fair  
22 point and I think I mentioned earlier today but this

1 bring it up again NHTSA has many other tools at its  
2 disposal to get information, not just this. I think  
3 we're trying to tease out sort of this how to rectify  
4 what we would normally do anyway versus this kind of  
5 particular tool and its usefulness for state level  
6 folks and obviously the research community at large.  
7 So thank you for clarifying that.

8 MS. SWEET: I'm good.

9 MR. BEUSE: Okay. Thank you.

10 MR. KIDD: Thanks.

11 MS. SWEET: Thank you.

12 Is Dave LeBlanc here?

13 MR. BEUSE: I do not see Mr. LeBlanc.

14 MS. SWEET: Amitai?

15 MR. BEUSE: I saw Amitai this morning but I  
16 don't see him here now.

17 MS. SWEET: Okay. So those are the other  
18 names. If I've missed anyone that registered to speak,  
19 please raise your hand or stand up so that we can make  
20 sure you get up.

21 MR. BEUSE: You win a prize if you do.

22 [LAUGHTER.]

1 MS. SWEET: So if anybody else would like to  
2 make remarks we have time to take that now.

3 MR. VINCENT: Can I say something?

4 MS. SWEET: Go ahead, Kevin Vincent.

5 MR. VINCENT: Hello. I'm Kevin Vincent with  
6 Faraday Future and I didn't prepare any remarks for  
7 this event but there has been some discussion of the  
8 utility of templates. And speaking on behalf of my  
9 company which is a new entrant into the auto  
10 manufacturing and into automated vehicles templates are  
11 very useful. It is very useful in educating the  
12 company about what it is we need to be doing in  
13 matching up to the rest of the industry to have a  
14 template. And you know those templates either get  
15 created from scratch based on trying to gather  
16 information and research into what other companies are  
17 doing or it is nice when it is ready-made. So I think  
18 it is great value for new entrants to have a template  
19 and frankly the more detail in that template that NHTSA  
20 is recommending the more value there is to new  
21 entrants. So that is the only comment I wanted to make  
22 but I did want to endorse the idea of the utility

1 templates.

2 MR. SWEET: Thank you.

3 MR. BEUSE: So if we can Mr. Vincent I guess  
4 as a new entrant, one discussion that comes up often,  
5 it has come up a little bit today but kind in vague  
6 circumstances is how do we make -- is there a way with  
7 this self-assessment a voluntary disclosure to make  
8 other new entrants aware of these sort of things?

9 MR. VINCENT: Yes, there is a way but I mean  
10 events like today, this workshop, and just more focus  
11 that is getting into the press and getting into the  
12 industry discussion that this is going on I think is  
13 the best way to do it.

14 MR. BEUSE: Okay.

15 MR. VINCENT: It is just very informal but the  
16 more buzz there is the more new entrants are going to  
17 have to realize they need to be matching up to what the  
18 rest of the industry is doing and not going off and  
19 doing something on their own.

20 MR. BEUSE: Yeah.

21 MR. VINCENT: And that is not to say things  
22 won't fall through the cracks but I think just having

1       some publicity around what you are doing here which is  
2       I know now what you are trying to do is the way to go.

3               MR. BEUSE:   Okay. Great. Thank you for that.

4               MR. VINCENT: okay.

5               MS. SWEET:   Would anybody else like an  
6       opportunity.

7               MR. BEUSE:   Mr. Smith, would you like to go  
8       again?

9               MR. SMITH:   Can I talk about chairs?

10              Well, if not.

11              MR. BEUSE:   Go ahead.

12              MS. SWEET:   All right. So again we've said it  
13       multiple times and I think this has been extremely  
14       productive. And it has been really great to hear the  
15       different perspectives throughout the day. We got more  
16       information that I could have imagined. So thank you  
17       all for coming. Thank you all for participating.

18              Just a reminder that we do have the open  
19       docket. Again it is NHSTA-2017-0086. It is open until  
20       December 18 if you so choose to use that as a means to  
21       get comments, that docket is specifically for the  
22       voluntary safety self-assessment.

1           We have other dockets open for the PRA and  
2 another docket open for the guidance document in  
3 general 2.0. So if you would like to make comments,  
4 please do. Again closes December 18.

5           We also want to put out there we mentioned  
6 before we are going to have another public meeting on  
7 November 6. It is going to be here, same room, 9:00 to  
8 12:00 I think is the time that we have slotted. That  
9 is going to be on the 2.0 document in general.  
10 Listening session, so if you have comments that you  
11 would like to offer to us at that point we welcome you  
12 to join us that day as well. That will be on the  
13 Federal Register pretty soon.

14           MR. BEUSE: Hopefully next week. And then I  
15 also wanted to point out that there's a box up here  
16 with some hard copy prints of the guidance if you would  
17 like to get one.

18           MS. SWEET: All right. That's all.

19           Thank you very much. Appreciate it.

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