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SELF-DRIVING VEHICLE LEGISLATION

TUESDAY, JUNE 27, 2017

House of Representatives,

Subcommittee on Digital Commerce and Consumer Protection,

Committee on Energy and Commerce

Washington, D.C.

The subcommittee met, pursuant to call, at 10:00 a.m., in Room 2123 Rayburn House Office Building, Hon. Robert Latta [chairman of the subcommittee] presiding.

Present: Representatives Latta, Harper, Upton, Lance, Guthrie, McKinley, Kinzinger, Bilirakis, Bucshon, Mullin, Walters, Costello, Walden (ex officio), Schakowsky, Clarke, Cardenas, Dingell, Matsui, Welch, Kennedy, Green, and Pallone (ex officio).

Staff present: Karen Christian, General Counsel; Kelly

Collins, Staff Assistant; Jordan Davis, Director of Policy and External Affairs; Blair Ellis, Digital Coordinator/Press Secretary; Melissa Froelich, Counsel, Digital Commerce and Consumer Protection; Adam Fromm, Director of Outreach and Coalitions; Giulia Giannangeli, Legislative Clerk, Digital Commerce and Consumer Protection/Communications and Technology; Zach Hunter, Director of Communications; Paul Jackson, Professional Staff, Digital Commerce and Consumer Protection; Bijan Koohmaraie, Counsel, Digital Commerce and Consumer Protection; Katie McKeough, Press Assistant; Alex Miller, Video Production Aide and Press Assistant; Paul Nagle, Chief Counsel, Digital Commerce and Consumer Protection; Mark Ratner, Policy Coordinator; Madeline Vey, Policy Coordinator, Digital Commerce and Consumer Protection; Hamlin Wade, Special Advisor, External Affairs; Everett Winnick, Director of Information Technology; Michelle Ash, Minority Chief Counsel, Digital Commerce and Consumer Protection; Evan Gilbert, Minority Press Assistant; Lisa Goldman, Minority Counsel; Rick Kessler, Minority Senior Advisor and Staff Director, Energy and Environment; Caroline Paris-Behr, Minority Policy Analyst; Tim Robinson, Minority Chief Counsel; and Andrew Souvall, Minority Director of Communications, Outreach and Member Services.

Mr. Latta. Good morning. I'd like to call the Subcommittee on Digital Commerce and Consumer Protection to order and I now recognize myself for five minutes for an opening statement.

Good morning again and welcome to today's hearing on self-driving vehicle legislation. Driving is an integral part of American life. When you think about who drives, you realize that it is pretty much everyone -- urban and rural, young and old and everyone and everywhere in between.

Tragically, however, traffic fatalities are on the rise. Last year there were over 40,000 fatalities and over 2 million injuries on our nation's highways.

Our goal today is to enact the right policies to encourage self-driving technologies that can drastically reduce those opportunities to address this problem.

One of the most important pieces is to define the right roles for the federal, state, and local governments. The need for this framework was laid out by the Obama administration just last year from the front bumper to the back bumper.

Whether it is a pickup truck, a car, or a van, how the vehicle works and its design should be the province of the federal government as the case has been for more than 50 years.

The states and localities have an equally important role to play in determining insurance requirements, titling cars, requiring registration, and setting the rules of the road.

They get to enact and enforce traffic laws and regulations as well. States will also still be able to offer incentives to entities that are early actors in this field if they want to encourage testing in their states.

We simply cannot have cars that stop at state lines. Just last week, we celebrated the 61st anniversary of President Eisenhower's interstate highway system connecting families and people across the country.

We also want to maintain leadership in the United States. Testing is now happening in Europe, Australia, Japan and China. Remaining at the forefront of this innovation ensures that we do not delay safety advances while also having the opportunity to grow jobs and investment.

Over the last year, we have seen 80 state bills introduced in legislatures across the country. We want to be sure that a confusing patchwork does not emerge that would hurt innovation and ultimately would be bad for the consumer.

Earlier this Congress, we held a hearing on smart communities and had the opportunity to hear from many different communities about the new technologies they were evaluating to bring to the benefits in their areas.

In my home state of Ohio, the city of Columbus won the Department of Transportation Smart City Challenge last year and is already leveraging new technology to gather

information-approved services for the community.

Technology to improve everything from safety to sanitation to the environment is going through a period of innovation and communities are looking for wise investments to improve the lives of their citizens.

This innovation will be a focus of the committee for years to come, especially self-driving vehicles. We are at the early stages and as the technology advances so will the need for us to continue our oversight.

This first step is to set the broad outline to bring better safety and mobility to everyone. We want the government to work actively with industry.

It is important that we have these discussions in the early stages of innovation so that we do not limit the potential benefits.

Our staffs have had constructive conversations with the Department of Transportation. They understand that the public will need to know an active watchdog is overlooking the industry as the administration continues to nominate candidates to join the department.

I look forward to working together to advance these important goals. Finally, I have had -- I always have had an open door policy and I know we cannot get this right without real-world stakeholder input.

We will move forward under regular order with multiple opportunities to improve upon the staff drafts. We will meet with anyone -- we are participating in bipartisan meetings. Pickups, cars, and vans are integral in the American way of life.

When you revolutionize something so important to everyday life, you can greatly improve every day -- you can always improve it.

This isn't the government saying that you have to get in a self-driving car. This is a government making sure that the industry can innovate in response to our changing lives.

I am ready to work with my colleagues to bring the safety investment and many of the benefits to the American people in Ohio and across the country.

And at this time, I would like to yield to the vice chairman the remainder of my time.

Mr. Harper. Thank you, Mr. Chairman, for calling today's hearing to continue the subcommittee's important work on self-driving vehicles.

Three weeks ago today I actually had my first opportunity to ride in a self-driving car with Audi and it was an incredible experience and I am very thankful because my wife and I are the parents of an adult child with special needs. He has Fragile X syndrome and for the disability community one of the top problems

that you have is transportation.

So my son works Monday through Friday but my wife is the one who has to get him to and from work. He can't go anywhere without someone taking him. So this is something that opens up all kinds of possibilities. I want to thank each of the witnesses for being here.

This is really a game changer, I believe, for our future and for our very special population.

With that, I yield back.

Mr. Latta. Well, thank you very much. The gentleman yields back and the chair now recognizes for an opening statement the general lady, the ranking member from Illinois.

Ms. Schakowsky. Thank you, Mr. Chairman. I want to first acknowledge that in the audience today is Joan Claybrook, who is a pioneer and continuing advocate for auto safety -- former head of NHTSA. I want to welcome you here.

The 14 bills before us today represent the starting point, by no means the ending point, for autonomous vehicle legislation.

My Democratic colleagues and I are ready to discuss the majority's ideas, bring our own to the table and work toward a single legislative package. I will need to see the additions and changes to the bill before I can give my support.

But it is my hope that we can have a bipartisan negotiation

and we will see, hopefully, and perhaps put a bill on -- put us on a path towards safe adoption of autonomous vehicles.

Safety must be the top priority of AV legislation. Autonomous vehicles have the potential to save lives, reducing the number of accidents caused by human error.

We can't take those gains for granted, though. Safety improvements depend on rigorous testing, responsible deployment, and consumer confidence in the technology.

While safety is my primary consideration, I just want to mention that autonomous vehicles, it is predicted, could displace about 4.1 million driving jobs. We just have to think about those kinds of transitions and how will putting AVs on the road affect congestion and air quality.

The key elements of the majority's approach are exemptions and state preemption. Notably absent from the bills before us is any direction for a rulemaking by NHTSA on autonomous vehicles.

Automakers' requests for exemptions, which seems very premature to me, acknowledge that autonomous vehicles may not comply with existing federal -- the federal motor vehicle safety standards.

Exemptions are no substitute for updated safety standards as more AVs share the road. Exemptions should only be a stopgap as NHTSA determines how to update existing laws and what additional safety standards might be necessary for AVs. We need

to figure out a responsible way to keep innovation moving forward while ensuring safety at every stage.

State preemption is not a new concept in auto safety. States are currently barred from legislation -- from regulating design features of cars once NHTSA adopts a federal standard.

The Republican draft proposes preemption without any requirement for a federal standard. I believe we need a framework for updating federal standards if we even have that conversation about preemption, which I am very skeptical about.

I also don't want to lose sight of the current potential for safety improvements. Some of the automakers pushing hardest for AV legislation have been the slowest in making automatic emergency braking, for example, which has proven to save lives -- making them standard in all vehicles.

The promise of AVs in the future should not cause us to ignore the safety gains that we have made -- we can make right now.

For example, rear seat reminders to prevent kids from dying in hot cars to -- and so we should be doing things like that right now -- reminders to imminent hazard authority.

Safety today, safety tomorrow -- this legislation package should be a vehicle for both. Our panel today includes industry and consumer interest. However, I am concerned that no one from NHTSA is here to testify. Agency feedback is critical.

We need to be mindful of NHTSA's current limitations and

work to provide the data and resources it needs to be an effective consumer watchdog as the technology in our vehicles evolve.

So, Mr. Chairman, I look forward to working with you on this legislation. I thank all of our witnesses for being here today and now I yield the remainder of my time to Congresswoman Dingell.

Ms. Dingell. I thank you, Madam Schakowsky.

I want to tell you how important I think this hearing is today because this is the new frontier for automobiles. It is not about if this technology is going to be developed.

It is where it is going to be developed by -- and by whom and I am unwilling to yield United States and America not stand at the forefront of innovation and technology.

This is about safety. I could not agree with you more. In 2015, over 35,000 people died on our roadways and early estimates indicate that this could rise to over 40,000 in 2016. That is a staggering amount of lives lost to auto accidents.

NHTSA estimates that 94 percent of highway crashes are due to human error. This development of automated vehicles has the potential to lower that number very significantly. It is why it is so important that we come together around legislation that addresses AV deployment, always putting safety first.

We have an obligation to examine the best ways to safely deploy these technologies, given the incredible amount of upside that they have.

But as I have said, it is going to happen. Let's make it happen here. Today's hearing is an important step towards finding bipartisan consensus on what I hope will be a nonpartisan issue.

The issues on safety do matter. Working with NHTSA does matter. I look forward to hearing our testimony from the witnesses and I yield back my overtime.

Mr. Latta. The gentlelady yields back the balance of her time and the chair now recognizes for five minutes the gentleman from Oregon, the chairman of the full committee.

The Chairman. Thank you very much, Chairman Latta, for your work on this and your staff's work on this and members on both sides of the aisle as we try to find the right legislative concepts.

I want to associate myself with the comments of the gentlelady of Michigan because we too join you in wanting to make sure that this innovation takes place in America first.

We have been on the cutting edge. We can continue to be on the cutting edge. But the long and the short of it is this new technology has a great opportunity to save lives.

I have seen it first hand in the vehicle my wife now has as you look at collision avoidance. We were driving down the highway with the cruise control. I was driving down the highway with the cruise control on.

She was napping and a big blackbird flew in front and the vehicle automatically braked. She thought I was, like, drowsy driving and are you okay, I am fine. It was a bird. Sure, it was a bird. It was a bird.

My point of the story is it saw that and reacted long before I would have, and whether it is a bird or a child or another vehicle gone astray or something that radar is always watching. And the ability to save lives is huge and avoid accidents is tremendous and I just believe we are on the cusp of something big.

I think the future generations will look back and say, what a bunch of barbarians -- you drove yourselves? And how did you text?

Well, that is part of the problem because people are doing that today and that is costing us an increasing number of lives -- 35,000 in 2015, maybe 40,000-plus in 2016. Millions of people being injured.

You think of the loss of life, of limb, of property -- everything that is associated with highway fatalities and accidents, the ability to move commerce efficiently through markets, the reduction in pollution that will bring if you are not stalled in a traffic jam because we found a better way to run a convoy of trucks through.

Now, we don't have commercial trucking in this committee. We stopped at light trucks. And so these are issues that will

be addressed in the future.

But we are on the cusp of something really big here. I am really impressed with what I have learned that the automakers are engaged in I have seen, as I say, first hand and once you have this technology, by the way, you have to reeducate yourself when you get in your old vehicle because it doesn't beep and bark and the wheel doesn't automatically keep you between the lines.

The question, though, is do you want these cars to stop at every state line? Because every state would have a different system. We have never done that in America with autos.

We certainly have common transportation systems with rail, I mean, and so we have to find that right balance between the states and localities and the federal government so that we can be the great innovators.

We can save lives. We can improve the environment with this technology. I am just really excited to be on the committee that is going to lead the way.

These are discussion drafts -- staff discussion drafts. We are -- this isn't the end. This is the beginning. But it is the beginning of -- we have done a lot up to this point.

And so I just -- I want to thank all the members of the committee on both sides of the aisle as we work forward to find the right balance here.

With that, I want to yield to my friend from the great state

of Michigan, former chairman of the committee, who I know has played a leading role in getting us to this point in prior Congresses.

And so with that, Mr. Chairman, I would yield to the gentleman from Michigan, Mr. Upton.

Mr. Upton. Well, thank you, Mr. Chairman. I just want to say forget about the Jetsons. The Jetsons are here, and as all of us drive, as we commute back to our districts in our home states, for me, Michigan, and we drive hundreds of miles often every day that we are there crisscrossing our district, we see other drivers. We see other drivers texting and using their phones and we see them weave and get sleepy.

And just going to Detroit yesterday morning I think I saw three trucks that weaved into my lane, trying to cross. This morning it took me more than an hour to get it -- seven miles -- because of a broken down car on the 14th Street bridge, another little accident on the GW Parkway and took my best shortcut, that I am not going to unveil now so that other people don't use it.

But, you know, going -- you know, it took me, I think, 20 minutes to get from Southwest Airlines to American, just going through that arrival part of DCA, trying to get here and avoid some of that.

This technology is going to save a lot of lives. It is going

to save a lot of accidents. And years from now we are going to wonder how was it that America let 35,000 people die on the roads in 2016, and maybe 40,000 this year.

We are at the cutting edge and we need to do it right. We need to do it in a bipartisan way and I welcome the participation of all members of this committee as we try to figure this thing out right.

Because at the end of the day, we are going to save a lot of lives. We are going to save a lot of casualty losses as well and it won't take us an hour to get seven miles back and forth to the office.

I yield back.

Mr. Latta. Thank you very much. The gentleman yields back.

At this time, the chair recognizes for five minutes the gentleman from New Jersey, the ranking member of the full committee.

Mr. Pallone. Thank you, Mr. Chairman.

This subcommittee has been reviewing automated vehicle technology for some time. As we have heard, there are a number of potential benefits both for safety and mobility in the deployment of self-driving cars.

There are also challenges to the deployment such as increased cyber security and privacy exposure risks and safety issues regarding the interaction between human operated and computer

operated vehicles.

We all share the goal of promoting the safest possible transportation options. Before us today are 14 separate legislative bills that deal with some of the deployment issues.

I support efforts to help get new technology advances on the roads faster. But we must review each bill through our safety lens.

Only if we keep safety first as our mantra can we get these initiatives to a place where they are ready to become law.

Although the minority was not involved in the development of these 14 bills, I would like to hold you, Mr. Chairman, to your commitment to work to make this a bipartisan effort. My goal is crafting a single bipartisan bill that all members can support.

Right now there is some challenges to getting there, starting with the leadership vacuum at the National Highway Traffic Safety Administration. We should not be moving bills out of committee before we hear from the administration about how the bills would or could be implemented. And yet, once again, we have nobody here today to testify from the administration.

The little we have heard from NHTSA is troubling. The president's budget estimate submitted to Congress this spring show NHTSA focusing on deregulatory actions that are in direct

conflict with what Congress required it to do.

Despite congressional mandates, NHTSA wants to stop important safety laws. Inexcusably, the agency is resisting critical safety measures designed to ensure blind pedestrians know a quiet car is nearby or that parents or grandparents do not unintentionally back over their little children.

While the bills before us deal with a number of industry requests such as increases to the current exemption limit or how FOIA requests are handled, there are no directions to NHTSA.

NHTSA must have an active role for self-driving cars to be successfully deployed on our roads. There also is not direction on the issues of cybersecurity, data security, or privacy.

As we look forward to this new world of self-driving cars, we must also ensure that we promote safety which includes ensuring NHTSA fulfills its responsibilities both in the emerging area as well as with human-driven cars and we can't focus on the future at the expense of today.

As Ranking Member Schakowsky pointed out, a number of things can be done right now to make traditional cars safe. Most of the auto industry have committed to making automatic emergency braking standard in all cars.

This is a technology that we know promotes safety and some automakers have already met that commitment. But others are delaying such action. When we know a technology makes people

safer, it should be put into all cars as quickly as possible.

In addition, the legislation we discuss now should not be the end of the conversation. One recurring theme throughout the subcommittee's disrupter series is that technology is advancing extremely quickly.

Today's new technology could be obsolete by next year. Self-driving vehicle technology is very much in the development phase and it is almost impossible to foresee all the issues that may arise.

So we can't allow the actions we take now to stop us from addressing new issues that come up -- that come up later or from revisiting some issues that may change in the future. So in my opinion, this is a big moment for us.

Automated vehicles have the potential to change everything now we move -- how we move, what communities look like, how we interact with each other, for example, and we need to be sure that we get this right and that safety is the first priority, and I would like to yield the balance of the time to Ms. Matsui.

Ms. Matsui. Thank you very much, Ranking Member Pallone, for yielding me time.

I would like to echo the ranking member. Without sufficient resources, NHTSA won't be able to facilitate the safe and speedy adoption of autonomous vehicles.

We all share the same goal -- safely getting this lifesaving

technology on the road. That is why I am disappointed with the process so far on today's legislation.

We ought to be working together on bipartisan comprehensive legislation rather than these piecemeal bills and these bills don't do enough.

California has been a leader in envisioning a pathway for the safe testing and deployment of AVs. If we are going to contemplate undoing this progress we ought to be focuses on giving NHTSA the tools to fill the void.

Autonomous vehicles will be hear before we know it and I stand ready to work with my colleagues on both sides of the aisle to put in place a strong framework that includes the right regulatory safeguards while allowing flexibility for innovation.

Thank you very much, and I yield back.

Mr. Latta. The gentlelady yields back the balance of the time and that will now conclude the member opening statements.

The chair would like to remind members that pursuant to committee rules all members' opening statements will be made part of the record.

We want to thank our witnesses for being with us today and taking time to testify before the subcommittee. Today's witnesses will have the opportunity to give opening statements followed by a round of questions from the members.

Our panelists for today's hearing will include Mr. Mitch Bainwol, the president and CEO at the Alliance of Automobile Manufacturers, the Honorable David Strickland, counsel for Self-Driving Coalition for Safer Streets and partner at Venable, Mr. Will Wallace, policy analyst at Consumers Union, Mr. Alan Morrison, Lerner Family associate dean for public interest and public service law at the George Washington University of Law School, Mr. Tim Day, senior vice president for Chamber Technology Engagement Center at the U.S. Chamber of Commerce, and John Bozzella, president and CEO of Global Automakers.

We appreciate you all being here today. We are going to start with Mr. Bainwol and you will be recognize for five minutes, and if you would just pull that mic up close to you and turn it on you will see when your time is about ready to expire by the lights. But thank you very much for being here and the mic is yours.

Thank you.

STATEMENTS OF MITCH BAINWOL, PRESIDENT AND CEO, ALLIANCE OF AUTOMOBILE MANUFACTURERS; THE HONORABLE DAVID L. STRICKLAND, COUNSEL, SELF-DRIVING COALITION FOR SAFER STREETS AND PARTNER, VENABLE LLP; WILLIAM C. WALLACE, POLICY ANALYST, CONSUMER UNION; ALAN B. MORRISON, LERNER FAMILY ASSOCIATE DEAN FOR PUBLIC INTEREST AND PUBLIC SERVICE LAW, GEORGE WASHINGTON UNIVERSITY LAW SCHOOL; TIM DAY, SENIOR VICE PRESIDENT, CHAMBER TECHNOLOGY ENGAGEMENT CENTER, U.S. CHAMBER OF COMMERCE; JOHN BOZZELLA, PRESIDENT AND CEO, GLOBAL AUTOMAKERS

STATEMENT OF MITCH BAINWOL

Mr. Bainwol. Thank you, sir.

Chairman Latta, Ranking Member Schakowsky, Chairman Walden, Ranking Member Pallone, Mr. Upton, members of the committee, I am Mitch Bainwol from the Alliance of Automobile Manufacturers.

We represent 12 automakers. We are kind of the umbrella group. We have the Detroit Three. We have major manufacturers in Europe and three Japanese manufacturers -- Toyota, Mazda and Mitsubishi. I am really pleased to be here today. Your leadership moving this issue is critical.

Rather than reading this statement, I am going to run through a quick slide deck -- 11 slides in about four and a half minutes -- so bear with me.

As we talk about the future -- next slide -- as we talk about the future I think it is instructive to go back to 1961. I think it was 61 years ago tomorrow that Eisenhower signed the bill that created the highway system.

That, obviously, was a critical assertion of federal leadership. Ike said, our unity as a nation is sustained by free communication of thought and by easy transportation of people and goods. That was true then and it is true today.

Ten years later -- next slide -- LBJ signed the Highway Act and really triggered an enormous federal focus on safety. It was a remarkable success.

Then public works chairman George Fallon said, this bill continues the policy of meaningful cooperation between the states and the federal government on highway matters.

It was a firm step forward in the effort to save lives, talking about a theme of federal and state roles.

Next slide. This is really kind of the critical data slide. This shows 1949 to 2016 the fatalities on the roads. The gray line, which is faint, is the absolute number of fatalities and you can see it reached just over 50,000 in the '70s and is now roughly about 40,000.

The green line is the line really to focus on. That is fatalities by VMT, vehicle miles travelled, and what you see is a phenomenal success story.

We are not without concern about the task that remains. The last two years there is been a tick-up and that is concerning. But the trend line over this -- over the 70-year period really is a powerful one.

Next slide. That was the basis of the recognition by CDC that motor vehicle safety was one of the 10 great public health achievements of the century.

So this is, I think, a statement -- go to the next slide -- that the Safety Act fundamentally works and the magic or the genius of the Safety Act is this scale and the scale -- what we are trying to do is optimize the capacity to innovate and we do that with self-certification and protection of consumers, and that is a very, very crucial balance to achieve and we believe the Safety Act and the facts of the last 70 years demonstrate that the right balance has been struck.

I would note that NHTSA has a huge backstop in terms of governing behavior -- a strong defect authority, information-gathering authority -- so it really is a powerful tool to govern behavior.

You also have liability. You have reputational issues that condition behavior. The next slide drills down a bit on the 35,000 lives lost in 2015 and what you see is at the very tip of the inverted pyramid you have about 1 percent, really less than 1 percent, that relates to the vehicle itself.

We need to get that 1 percent down as far as humanly possible. But the magic of what you are doing today is that you're going to touch the 99 percent that is out there that we can make a difference on working together.

Next slide. So there are clear hurdles here. We have got, you know, government hurdles in terms of how government manages to deal with the pace of innovation.

We have got consumer acceptance issues, data risk, dislocation, technology itself -- all the things that the opening statements have highlighted.

The benefit stream is enormous. We have talked mostly about lives that have sustained injuries, access for the disabled, enhanced quality of life, less carbon emissions, more fuel efficiency, faster travel, more productive commerce, more flexible space utilization. The prize at the end of the rainbow here is enormous.

So let's look at what countries are doing around -- around the world and what you see is countries are nationalizing their frameworks for self-driving.

That is what's going on globally, and there is a picture at the bottom of the Queen. She had a statement in May just a month ago, where even the Queen is getting into the act and is leading to the future.

So this is the global context of -- that defines the world

in which you all are operating. And if we look at the next slide to the U.S., the U.S. is moving in a profoundly different direction.

So rather than nationalizing our framework what we have been doing is establishing a patchwork and whether 70 or 80 bills in the last year, it is a ton of activity.

Not all of it is bad. Some of the state work is prudent and helpful. But when you have a patchwork it slows down innovation and that is a huge challenge.

So the draft bills, we recognize, are a beginning and we are heartened by the call for bipartisan action and we are hopeful that a bipartisan bill can emerge.

But we think it is a really good start. By increasing the number of vehicles eligible for temporary exemptions, the draft stimulates the generation of data that is necessary for later FMVSS.

It provides the market incentive to drive the investment of industry research that ultimately will save so many lives and it enhances U.S. competitiveness in this space.

The uniform national framework will accelerate testing and deployment and by adopting a forward-leaning approach you send a signal to states, to cities, and to the public that the future is worth accelerating.

So I am down to my last slide and I am a little over. The

point here is that this is a journey we are going to be on for a while. Moody's projects that AVs will not be ubiquitous until 2055.

Think of it. 1956, Eisenhower, with the interstate highway system -- 2055, nearly a hundred years later, ubiquity with AVs. It is a century of profound change for mobility. This committee has an opportunity to take the next great step to save lives and improve commerce and improve quality of life.

This is the right time. We need to assert leadership and the question is ultimately will the technology be developed here in the U.S. or will it be imported.

Thank you very much.

[The prepared statement of Mitch Bainwol follows:]

**********INSERT 1**********

Mr. Latta. Well, thank you very much, and the chair now recognizes Mr. Strickland for five minutes.

Thank you very much for being here.

STATEMENT OF THE HONORABLE DAVID L. STRICKLAND

Mr. Strickland. Mr. Chairman, thank you so much for the opportunity, and Ranking Member Schakowsky, nice to see you again. I am looking forward to working with you on this important legislation.

I want to commend this committee for its efforts in taking a leadership in this important suite of bills. It is the first of its kind to address the major national legislative and policy challenges related to deploying self-driving vehicles and the coalition looks forward to working with this committee as this draft evolves.

My name is David Strickland and I am a partner at Venable LLP. I am testifying here today as counsel to the Self-Driving Coalition for Safer Streets.

The coalition, which members include Ford Motor Company, Lyft, Uber, the Volvo Car Group, and Waymo is focused on enabling the development and deployment of level four and level five fully self-driving vehicles.

This cross-section of companies demonstrates the widespread interest in developing this technology across different sectors -- technology, automobile, and transportation networking.

Despite their different backgrounds, the companies came together to form the coalition because of their commitment to

bring tremendous potential safety benefits of self-driving cars to consumers in the safest and swiftest manner possible.

The coalition believes that fully self-driving cars will play a key role in making our roads safer. The members have noted the importance of safety and the fact that we are going in the wrong direction.

Not only did we lose 35,092 people in 2015, the trend line looks for 2016 it is going to get even higher, and as Ms. Dingell noted that 94 percent of these crashes have an element of human error.

Self-driving vehicles have the ability to, frankly, cover those accidents. All of the variations of human error can be addressed by this technology, which is the reason why we think that it is so important to have this technology tested and deployed as quickly as we possibly can in the most safest manner possible.

Self-driving vehicles also hold the promise to enhance mobility for the disabled and the elderly, reduce congestion and improve productivity.

It would appear that the committee shares many of these goals, as demonstrated through the various bills under discussion today. I would like to take the opportunity to provide some comments and feedback on the discussion draft.

First, we believe the LEAD'R Act is an important step in clarifying the appropriate federal and state roles and

responsibilities when it comes to fully self-driving vehicles.

The federal government retains the authority to promulgate and enforce nationally uniform motor vehicle safety standards. We do not believe self-driving cars present a reason to deviate from that well-established precedent.

States should be discouraged from just creating a patchwork of inconsistent laws and regulations relating to such standards and have the potential to stifle this emerging industry.

The LEAD'R Act would more clearly delineate the states' continue to retain their traditional role in establishing and maintaining rules of the road, vehicle registration, traffic enforcement, and with respect to insurance while making it clear that it is the federal government's exclusive authority to set the standards related to safety, performance, and the design of fully self-driving vehicles.

We have suggestions and we look forward to working with the committee to strengthen and bolster the technology -- the technological neutrality of this language.

I also want to highlight the collection of proposals related to the expanding vehicle exemptions to permit new safety features unique to fully self-driving vehicles -- more specifically, the PAVE, ROAD, EXEMPT, and MORE Acts.

Today, level four and five vehicle -- self-driving vehicles are subject to all of the criteria in the federal safety standards,

even though certain decades-old provisions were clearly designed with a human driver in mind.

The numerical and temporal limitations on exemptions under current law present a concrete obstacle to achieve the goal of rapid, safe, and robust deployment necessary to attain the safety and mobility benefits we believe the fully self-driving vehicles promise.

The coalition supports these four bills as they would expand NHTSA's authority to permit a greater number of vehicles to be allowed on the road for testing and deployment of highway automated vehicles and because they would authorize exemptions for two well-intentioned purposes -- first, to promote the public adoption and acceptance or facilitate meaningful commercial deployment of a new motor vehicle safety feature system, or two, to promote transportation access to individuals with disabilities.

We think these two new purposes for exemptions, along with the requirement for equivalent safety, strike the right balance to encourage the safe innovation of level four and level five vehicles.

While we suggest some wording changes such as using the same test for equivalent safety that presently applies to the safety features, we think that this is the right direction in terms of increasing innovation.

While we appreciate the committee's draft legislation all across a number of advisory councils, we believe it also too, making sure we thank the committee for its widespread and inclusion of a number of constituencies of stakeholders in this field that believe will have a great important ability to fuel, I guess, debate and a more thoughtful approach to the -- to the committee's work.

Thank you again for the opportunity. I am looking forward to your questions.

[The prepared statement of David L. Strickland follows:]

**********INSERT 2**********

Mr. Latta. Thank you very much.

And Mr. Wallace, you are recognized for five minutes for your opening statement.

STATEMENT OF WILLIAM C. WALLACE

Mr. Wallace. Good morning, and thank you for the chance to testify.

At the independent nonprofit Consumer Reports, experts at our auto test center have rigorously evaluated cars that can steer within a lane, adjust speed and brake automatically.

Based on this work, we see the potential for self-driving vehicles to make our roads far safer. There is a smart safe path to realizing this promise that we encourage automakers, regulators and Congress to follow.

Companies and policy makers should set a clear expectation. As highly automated vehicles improve mobility, these cars also must significantly improve safety for their occupants and others who share the road.

Today, we urge the subcommittee to embrace both technological innovation and accountability. Innovation has brought about numerous practical and lifesaving features. But any accelerated deployment of automated vehicle systems should be evidence based and should include sensible and mandatory measures to protect consumers against new hazards that may emerge.

First, with these principles in mind, we make several recommendations that are explained further in our written testimony. The first one is that exemptions from federal safety

standards for highly automated vehicles should be limited to equipment where a vehicle's automated driving system can fully, effectively, and safely replace a human driver's role.

This would be consistent with NHTSA's governing statute. Further, because any vehicle should provide sufficient protection in a crash, no exemption should be granted for crashworthiness or occupant protection.

Congress also should direct NHTSA to define specific criteria that must be followed by both companies and the agency. This could help bring some light to exemptions and make them more data driven which could, in turn, enhance consumer confidence. It also could promote business certainty to define a more specific process for exemptions.

Second, new measures should be in place for vehicles that have level two or three driving automation which can give consumers a dangerously false sense of security and increase the risk of driver inattention.

Humans have a limited ability to return to driving and monitoring the roadway after having disengaged from those tasks. Accordingly, additional NHTSA research into human-machine interface should be fully funded.

Disclosure to consumers about these vehicles should be improved and NHTSA should take a look at whether it would improve safety to set performance standards for emerging systems and

monitor whether the driver is paying attention and is able to take the wheel when alerted.

Third, automakers should make their safety-related data public and share it with regulators in a timely manner. Right now, industry claims of the safety benefits of highly automated vehicles appear to be speculative or based on data held internally. Greater disclosure would help companies build trust in their products, which right now is lacking.

For example, preliminary survey results released by MIT AgeLab in late May indicated that only 13 percent of respondents would be comfortable with a fully autonomous car, down 10 percentage points from the previous year.

Fourth, preemption of state and local authority should be narrowly tailored and limited to areas where NHTSA has set strong federal safety standards.

It would be inappropriate to displace states' authority to protect their citizens without also having strong federal safety standards in place.

But if the subcommittee does preempt the states, it should be with a far narrower provision that does not inhibit traditional approaches states have used to protect their citizens.

Fifth, the FTC and NHTSA should be given the authority to jointly set baseline enforceable privacy and security standards for cars. A nationally representative Consumer Reports survey

found last month that 70 percent of U.S. adults lack confidence that their personal data is private and safe from being shared without their knowledge and, as multiple federal agencies have documented, a breach of car systems can come with a risk of deadly consequences.

Consumers should know what data their car is collecting and who has access to this information and should be able to trust that companies are legally obligated to protect their privacy and security.

Sixth, NHTSA's research, enforcement, and other capabilities should be strengthened significantly for both increased funding and authority.

NHTSA remains chronically under resourced and needs expanded funding and personnel as well as a greater practical ability to get unsafe cars off the road quickly.

For the agency to be the kind of watchdog consumers deserve, Congress should give it the authority to take action without delay on defects that presents an imminent hazard as has been proposed in the Vehicle Safety Improvement Act.

In conclusion, we see great safety potential in self-driving cars. But that promise should be realized by following a smart safe path like the one we propose today.

As it continues its work, we stand ready to help the subcommittee ensure that these principles are upheld in the law.

[The prepared statement of William C. Wallace follows:]

**********INSERT 3**********

Mr. Latta. Thank you very much.

Mr. Morrison, you are recognized for five minutes.

STATEMENT OF ALAN B. MORRISON

Mr. Morrison. Thank you, Mr. Chairman.

My written statement explains the general principles I believe should be applied to this area but now I want to take a lawyer's role and go over the bills that are before this committee.

It is necessary because the other witnesses, neither in their written statements or in their oral statements, have gone through in detail and I think it is very important to understand exactly what kind of major changes these proposed laws would make.

Part of the problem is that each one of these draft bills is a small piece of the problem and they are not all put together in the staff memorandum or anyplace else.

As I read them, these would enact major changes in the laws. There would be less safety and more preemption, and it is all in the name of technological advances, which is wholly unnecessary to full testing, and that is my first point.

There is no law change now to enable NHTSA to get out of the way of testing. There is a specific exemption in the law now, 30112(b)(10), which specifically says that the general prohibition of putting vehicles on the road without approval is -- does not apply and therefore there is nothing standing in the way right now of all these vehicles being tested. The question

is what else is going to happen.

Now, I would point out that under my reading of the current preemption statute that states are permitted to regulate testing largely because NHTSA has no rules on testing.

The testing provision makes it not applicable. It doesn't mean that it is complying with the Federal Motor Vehicle Safety Standard.

But what's most significant is that the LEAD'R bill will vastly expand the exemption from state regulation at all. Under current law there has to be a Federal Motor Vehicle Safety Standard in order for there to be preemption.

That has changed under the LEAD'R bill. The LEAD'R bill provides that states cannot do anything unless they are doing something which is identical to what NHTSA has done.

Since NHTSA has done nothing and has no immediate intention of doing nothing, that means that under this bill, no matter how little NHTSA does, the states can't do anything. That's very important and it is a major change in the law, and we are talking only about testing.

Now, the second thing I want to talk about is the exemptions. These exemptions are not necessary for testing. They are necessary for deployment. Deployment means that anyone, you or I or the car rental companies or anyone in the country -- can drive one of these vehicles under one of the exemptions. Testing

means that only the car companies -- the owners, the operators, and the people they contract with who are specially trained -- are allowed to do this.

So there is a big difference between deployment and testing and this exemption would apply to deployment. And let me tell you how broad this exemption is.

It would go from 2,500 vehicles a year to 10,000 vehicles in a 12-month period for every single manufacturer of these vehicles and I believe there are 30-something companies.

If my math is right, you multiply 30 times 100,000 per year and you get an idea of how much this exemption is going to allow these vehicles to be on the road with no NHTSA supervision whatsoever.

Moreover, the process by which these exemptions is granted is going to be completely ineffective. The question before the agency will be is there an equivalent level of safety.

That is a very difficult question to answer for vehicles that have never been tested, which have totally new features, which don't have brake pedals, steering wheels, accelerators, which assume that the driver is going to be in the car.

Moreover, what NHTSA is going to be able to do is to say that none of this information that the auto companies are submitting can be seen by state regulators, the public, by members of this committee or anybody else because it is all confidential

business information.

Now, that means there is going to be no one guarding the guards. No one's going to be checking to see that what NHTSA does is going to assure the safety of these vehicles.

I want to be clear. I am not opposed to these vehicles. I am not opposed to testing. But we need somebody to look at this material besides just NHTSA and the auto companies. There is a big problem of trust now in this industry and I don't think that the driving public, the pedestrians and everyone else in the world is going to be satisfied by saying it is all okay, NHTSA is taking care of it when we know that it is not doing anything and leaving it to all of the companies that have their own economic interest in doing this.

Now, the bottom line for me is that when you work through the maze, and it is a maze of these rules, there is no requirement for new federal regulation. None.

Second, there is much greater preemption of state law. Third, there is much broader deployment, not testing exemptions.

Fourth, there is no clear standards for granting the exemption, and fifth, almost total secrecy for the industry in submitting their test data and other information that is so necessary.

So I want to ask this question. Is this what your constituents want? Do you think that this will engender public

trust? I don't. I think there is a way forward but these bills are not it.

Thank you very much.

[The prepared statement of Alan B. Morrison follows:]

**********INSERT 4**********

Mr. Latta. Thank you very much for your testimony this morning.

And Mr. Day, you are recognized for five minutes. Thanks.

STATEMENT OF TIM DAY

Mr. Day. Thank you. Chairman Latta, Ranking Member Schakowsky, and members of the Digital Commerce and Consumer Protection Subcommittee, good morning.

My name is Tim Day. I am senior vice present of C_TEC, the Chamber Technology Engagement Center. Thank you for the opportunity to provide testimony this morning on self-driving vehicles.

The U.S. Chamber of Commerce is the world's largest business federation representing the interests of more than 3 million businesses of all sizes, sectors, and regions as well as state and local chambers and industry associations.

The chamber established C_TEC to advance technology's role in the U.S. economy. I am here to testify on a vital aspect of the business environment -- preemption -- and also to support the LEAD'R Act.

The Chamber of Commerce has historically supported preemption for all modes of transportation as transportation is key to the healthy interstate commerce and the growth of our economy.

For example, according to the Department of Transportation, more than $1 out of every $10 produced in the U.S. GDP is related to transportation activity. As you can imagine, the United

States is not the only country currently developing self-driving technology.

In China, Baidu, one of the largest internet companies in the world, has already announced that it will introduce its fully autonomous cars on highways and open city roads by the year 2020.

And Germany recently passed legislation to allow road test vehicles in which drivers will be allowed to take their hands off of the steering wheel.

For the United States to continue to be globally competitive in the self-driving vehicle market, we must provide American innovators with a single set of standards as opposed to a patchwork of laws by individual states.

Technology companies come in all sizes. Many of the current industry leaders once began with just an idea. The companies of tomorrow also will be started with ideas and we must create a business-friendly environment to allow them to succeed and thrive.

A recent Morning Consult survey just last week of over 2,000 registered voters found that three in five voters support the use of self-driving vehicles.

It also found that voters overwhelmingly predict the positive impact of self-driving vehicles on the disabled and elderly citizens of this country as well as the issues of drunk

and distracted driving.

And finally, voters strongly prefer federal standards when it comes to laws governing the use of self-driving vehicles. While further education of the American public is needed, this poll points to the fact that the public recognizes the potential benefits of this technology and the role of federal government.

C_TEC's autonomous vehicle working group has been convening stakeholders from both the commercial and passenger vehicle sectors to ensure that the regulatory environment will allow for the U.S. to capitalize on these societal and commercial prospects.

From an economic perspective, a study by Intel completed this month shows that the economic opportunity from self-driving vehicles will grow from $800 billion to $7 trillion as self-driving vehicles become mainstream.

The study also finds that by the year 2050 the passenger economy, which is the result of self-driving vehicles turning drivers into passengers, will be a $7 trillion global industry.

Business use will generate $3 trillion as industries use self-driving vehicles to reshape their businesses and leverage new opportunities.

All this to say when we talk about self-driving vehicles, commercial or passenger, there is a lot at stake for the American people, our businesses, and our economy.

To conclude, the chamber supports the development of

voluntary standards that do not constrain innovation. We advocate for technology-neutral policies that will allow new technology to develop and recommends against policies that are too specific.

The chamber also supports exemptions and recommends that regulatory agencies work closely with industry to craft these standards.

On behalf of C_TEC, thank you for the opportunity to testify this morning and I look forward to your questions.

[The prepared statement of Tim Day follows:]

**********INSERT 5**********

Mr. Latta. Thank you.

Mr. Bozzella, you are recognized for five minutes for your statement.

STATEMENT OF JOHN BOZZELLA

Mr. Bozzella. Mr. Chairman, thank you very much. Ranking Member Schakowsky, Chairman Walden, members of the subcommittee, thank you very much for the opportunity to testify today.

I am John Bozzella, president and CEO of the Association of Global Automakers. Global Automakers represents major automotive manufacturers and suppliers that are making enormous investments in connected and automated vehicles right here in the United States.

We thank the committee for its continued interest in vehicle automation and are encouraged by the discussion draft which advances a number of important ideas to help deploy automated vehicles.

So why are we here? For Global Automakers, it is all about safety. Thirty-five thousand people lost their lives on America's roadways in 2015.

Unfortunately, this number is rising even though vehicles are safer than they've ever been. We need to work toward a future where cars no longer crash and zero lives are lost on the roads.

To get to zero, we need a comprehensive safety approach that involves all road users and transportation providers. Automated and connected vehicle technology is fundamental to this effort.

Right now, the auto industry is developing and deploying an array of automated vehicle technologies. These advancements are developing rapidly and we can put vehicles on roadways now and in the near future that will help save lives while regulators develop the necessary policy framework.

So the question is what do we do in this interim period? First, we need one set of running rules to support widespread introduction of automated vehicles.

Congress must clarify that the federal government is the primary regulator of motor vehicle safety. The law currently recognizes that a national vehicle marketplace needs uniform safety standards and that a vehicle purchased in one state can drive to a neighboring state.

Unfortunately, some states, perceiving a vacuum, have begun to regulate. This will lead to conflicting rules that could impede development of lifesaving technologies.

Second, in the interim, we need a flexible process that provides safety assurance while allowing meaningful deployment of these technologies.

This process should assure the regulator and the public that automakers are designing their systems with safety first in mind.

It is important that this assurance process be nimble and account for the rapid pace of innovation as NHTSA develops the

data and basis for updating regulations.

Congress has a clear and key role to play in helping to remove barriers to innovation by expanding opportunities to deploy these technologies.

The way to do this is to expand the current exemption levels for certain motor vehicle safety standards that were written for mechanical devices in a way that maintains motor vehicle safety.

First -- finally, Congress should ensure that any framework does not pick winners and losers but instead encourages all levels of automation.

While level four and five driverless cars will bring significant benefits, level three vehicles, where the driver is still in the loop, can also provide major gains in safety, particularly for rural areas where highway fatalities are over twice the rate of urban areas.

Any framework should allow testing and deployment of all levels, and while safety is paramount, automated vehicles also create other benefits such as improved mobility for underserved communities and environmental benefits as automation, combined with transportation as a service, could significantly increase demand for electric vehicles.

Congress has the opportunity now to set the policy framework that will help ensure these benefits become a reality.

We look forward to working with the subcommittee on

legislation to promote rapid and safe deployment of automated vehicles and I would be happy to answer any questions you may have. Thank you.

[The prepared statement of John Bozzella follows:]

**********INSERT 6**********

Mr. Latta. Well, thank you very much for your testimony today and that will conclude the statements from our panel and, again, thank you very much for being with us today.

And I will recognize myself for the opening questions. Mr. Bainwol, I would like to begin with you. Cybersecurity is a critical issue that has been raised by members on both sides of the aisle.

I know that when Mr. Welch from Vermont and I did the internet of things last Congress in our working group we had some discussions on this in that cybersecurity was a big issue that had come up.

What's the current status of the Auto Information Sharing and Analysis Center and what is the proper role for government in the cybersecurity for self-driving cars?

Mr. Bainwol. Thank you, sir.

First, cyber is absolutely a concern and it is one that as we move forward in this process we need to address. The auto industry in 2015, I believe it was, John -- 2015 -- established the ISAC in advance -- uniquely in advance of an event. Almost every other sector had established an ISAC after an event occurred. So we were -- we were proactive -- an overused word but truthful in this case, and the ISAC is up and running.

What I'd like to do is offer the ISAC to come in to brief the committee privately. It is difficult to walk through the

process and procedure of the ISAC that is in a public setting because we don't want to provide a roadmap for actors who want to abuse the system.

But I think it might be useful as you contemplate finalizing this package of legislation to hear directly from the ISAC and so I'd like to make that offer.

But it is up and running. It is promulgating best practices and it is dealing with threats today.

Mr. Latta. Let me ask, as a quick follow-up, should -- should the government set the cybersecurity standards or act as a watchdog or what?

Mr. Bainwol. So the threat is a dynamic one and the notion of setting standards today would -- may be relevant for the moment but not enduring. And so we think that the approach should not be a standard set by government.

Mr. Latta. Thank you.

Mr. Day, your members include a host of industries involved in the development of self-driving cars. How important is a national safety framework at NHTSA for keeping self-driving car innovation in the United States?

Mr. Day. Absolutely. Thank you for the question, Mr. Chairman.

So we have been working on this issue at the chamber for quite some time. We have developed a working group of both large

and small companies that have been engaged for quite some time.

It truly is critical. We believe that, you know, as we were discussing in the opening statements, the Obama administration set the framework for this activity last year. The foreign competition is real.

As I mentioned in my testimony, you've got China, you've got Germany and a number of other countries that are looking at this technology and for us to continue to maintain leadership in this area it is critical that we move forward with this legislation as proposed and we look forward to working with you and the members of this subcommittee to make sure that that happens.

Mr. Latta. Thank you.

Mr. Bozzella, let me turn to something you said in your testimony that has been something I have brought up for a good number of months here.

You stated that the advancements are developing rapidly. You know, if you -- if you look back five years, and one of the great things about serving on this committee and especially on this subcommittee, we look over the horizon and the companies out there that are doing development are looking at the horizon, are -- would you say that if you look back five years are you where you are today or has -- are you farther ahead than you thought you'd be five years ago?

Mr. Bozzella. I think we are much further ahead than I thought we'd be and I have been in the industry over 20 years and I -- and I think that it continues to surprise me, the rapid pace of innovation, and I think we have a real opportunity here with this framework to responsibly and effectively, with safety first in mind, continue to allow now these advancements to deploy into -- into the marketplace and save lives.

Mr. Latta. Thank you.

Mr. Strickland, there has been some discussion of the states filling the gap in the safety regulations with state-specific self-driving car rules.

What would it mean for your members to comply with 50 or more different safety frameworks and how would -- and how and why is this not a concern today with cars on the road?

Mr. Strickland. Mr. Chairman, frankly, I mean, this would be a disaster, frankly, not only the members of my coalition, which includes three technology companies and two OEMs, but, frankly, the entire industry.

As was stated by the panel, historically speaking, the National Traffic and Safety Act is meant to create a uniform national framework of vehicle safety to make sure that there is no gaps in safety for any vehicle in the stream of commerce in the United States and more specifically not to hamper innovation.

When you think about how cars are being tested today, the

innovation is like -- electronics ability to control that was introduced in 1990 all the way through crash imminent braking.

Those are innovations that were built within the current framework that maintain safe thoughtful testing and deployment and also have the protection of making sure that you can do this in all 50 states.

So if this evolved or changed or if states created 50 individual mini NHTSAs it, frankly, would be the undoing of, frankly, our auto market and really impact our competitiveness, our ability to be able to move new technologies into the fleet thoughtfully and safely.

Mr. Latta. Thank you very much. My time has expired and the chair recognizes the gentlelady from Illinois, the ranking member of the subcommittee, for five minutes.

Ms. Schakowsky. Thank you, Mr. Chairman.

So both you, Mr. Wallace, and you, Mr. Morrison, observed in your testimony that NHTSA's capabilities should be strengthened significantly through increased funding and authority, and you, Mr. Morrison, just to fill -- it sounds like to fill a vacuum.

So let me ask each of you to comment, and if you could be brief because I have a number of questions. Do you believe that NHTSA currently has the authority, data, staff, expertise to

ensure that highly autonomous vehicles are safely deployed?

Mr. Wallace.

Mr. Wallace. No. I believe that NHTSA needs far more staff that have the expertise in electronics and software. NHTSA needs to receive far more data about automated vehicle systems from companies and the systems that are approaching level three, and the -- as for authority, NHTSA, although some of the other witnesses have talked about NHTSA's broad authority, what we've seen in practice is that the agency has not had a practical ability to get vehicles off the road quickly. And so NHTSA needs imminent hazard authority so it can do that.

Ms. Schakowsky. Thank you.

Mr. Morrison.

Mr. Morrison. I will speak only about the authority question. I have no question in my mind that NHTSA has the authority to fill the vacuum and if it does it would be proper to preempt state laws.

The problem is that the industry position is voluntary guidance from NHTSA is enough and the states should stay out of the way.

I don't think that is the right balance to be struck and that NHTSA ought to find some way to exercise its authority not over testing specifically but before we start getting into deployment, which is what really concerns me.

Ms. Schakowsky. You reacted to the statement that there ought to be exemptions for safety standards. I wondered if you wanted to comment on that.

Mr. Morrison. I want to be clear that I am talking about the exemptions for deployment. That is, when anyone other than the car manufacturer is driving the vehicle or operating the vehicle, I guess, is more proper in this context, or controlling the vehicle even if nobody is in it that is where I get worried about the exemptions.

We don't need any exemptions for the testing phase and the concerns about foreign countries getting ahead of us they will not be able to bring their cars into this country unless their HAVs meet our safety standards.

There are currently no safety standards for them to meet. So unless they get an exemption, and they would not be eligible for exemptions here, we don't have to worry about foreign competitors.

We need to do testing and then worry about exemptions and preemption after that.

Ms. Schakowsky. So, Mr. Wallace, you were talking about the -- NHTSA has already requested imminent hazard authority. Is that true?

Mr. Wallace. That's true.

Ms. Schakowsky. Let me ask about -- you know, I want to

talk about a number of issues that are currently on the safety radar screen, at least for me.

You said, Mr. Morrison, in your written testimony, "The focus on driverless cars and their potential for saving lives and money is not a green light to abandon all other safety-related rules that NHTSA could issue now without any changes in its governing statute," and I just wanted to bring up again an issue that has been close to my heart and constituents and consumers that I have been dealing with.

Last year, 39 children died in vehicles from heat stroke and I have talked to parents and we've had a press conference, the most heartbreaking press conference I ever had, who can never ever forgive themselves about forgetting their child in the back of a car.

So, Mr. Wallace, how could NHTSA help reduce the number of heat stroke victims?

Mr. Wallace. NHTSA could -- NHTSA could reduce the number of these tragic deaths that occur by requiring every new vehicle to have technology on it that notifies the driver if there is a child still in the back seat, and that is what the Hot Cars Act would do and that is why we support it.

Ms. Schakowsky. And, Mr. Morrison, so you would put a focus on testing. Do you feel that the legislation before us doesn't distinguish sufficiently between testing and deployment? Is

that a chief flaw that you see right now?

Mr. Morrison. I think you have to read it very, very carefully to understand that deployment doesn't mean testing. Deployment means selling these cars to fleets like Uber, car rental companies, or anybody else who is willing to buy them at $100,000 per year per manufacturer with five-year exemptions.

That strikes me as an awful lot beyond testing and I think we need to be careful to say testing is okay now but no exemptions for deployment.

Ms. Schakowsky. I am wondering if -- my time is up -- if you could give us your suggestions on how to proceed ahead and I would welcome them also from you, Mr. Wallace.

Mr. Morrison. I will try to draft something for you.

Ms. Schakowsky. Okay. That would be great.

Thank you. I yield back.

Mr. Latta. Thank you very much. The gentlelady yields back.

The chair now recognizes the chairman of the full committee, the chairman from Oregon, for five minutes.

The Chairman. I thank the chairman. Again, I thank our panel of witnesses. Your testimony is most helpful in our work and we appreciate your insights and opinions.

Mr. Bainwol, there are many potential benefits for

self-driving cars, as we have heard from various participants in this discussion. I expect we'll hear even more today.

That said, self-driving cars are not on the road today and won't be for the next few years. Why are these concepts in the discussion drafts important for your members -- could you look at that for us -- when it comes to innovation in developing self-driving cars?

I mean, it is a range of options we are talking about here to get to where there is no steering wheel and it is completely autonomous, right?

Mr. Bainwol. So this is a relatively long evolution. It is both true that the future is here and that it is going to take a while to get here in full. So I alluded to Moody's stipulating that ubiquity would occur in 2055 so that is 40 years from now.

But they'll be available in 2020, 2021. It is right around the corner and the research is going on as we speak and has been for years.

So the question here is how do we accelerate the future in a prudent way that maximizes safety. In my oral, I discuss the NHTSA framework that optimized -- that sought to optimize the balance so that you'd have protection of consumer but also the lubrication for innovation to occur. And that is really what this day is all about is how do you promote and maximize innovation

here in the United States.

The Chairman. And I want to point out again that these are staff discussion drafts. This is the beginning, not the end, and the importance of having everyone weigh in is not lost on us.

Mr. Day, in your testimony you mentioned a survey, I believe, that was completed earlier this month. Did that survey look at how people who have some of the advanced safety features on their cars -- they feel about the future of self-driving cars?

I gave you my example and it seems to me you would go, wow, that makes a big difference. Does that affect the data?

Mr. Day. It does, and so people, once they start to experience, from our findings, from semi-autonomous vehicles, from automatic braking, from lane assistance --

The Chairman. Right.

Mr. Day. -- et cetera, when they start to understand the benefits and they understand what that means to overall safety, people understand and appreciate and support the technology. Absolutely.

The Chairman. Yes. And I have to believe that, you know, you're going to -- you're going to reduce vehicle accidents, clearly, and the costs that goes with it.

I suppose the auto body shop folks might not be as happy -- oh, they don't want all this either, I know. But my chief

of staff got a new Jeep -- I will probably get in trouble for telling this story by she was backing up and it stopped because she was very close to something hear her mirror and it stopped the Jeep.

And I just think about the savings this is going to bring everybody and the ability to save lives and injuries.

Now, we do want to make sure before we unleash all these vehicles on the road with no steering wheels, off in the future, that that all is going to work.

I got to admit, you know, that leaves you a little unsettled initially that all that may happen and how do you override it? I know with the technology in our car you can clearly override it but it does keep you in the lines.

Now, I also have seen where -- and this is part of why I think you need federal involvement -- if the paint is gone or not sufficient along the side lines or the center line or whatever, then that part of the safety technology doesn't work.

So do you need a paint standard? By the way, none of that works if you got two inches of snow and ice, I assume, on the road. I mean, you're always going to have some level of importance of driver involvement.

As you're looking at the development, going forward, what is it that will work in those situations where it is not a clear highway? Who can -- who can address that in terms of how we might

minimize those -- yes, sir. Go ahead.

Mr. Bozzella. If I could, Mr. Chairman. I think you make two really important points. One is this is a whole spectrum of technologies that will be deployed based on competing business models, right.

So you'll have driverless vehicles but you'll also have vehicles where the -- where the technology is a guardian angel. I think that is a very important point.

To your point about -- we will call it redundancy, the idea that you need lots of different sensing capability -- cameras, radar, LIDARS -- we think vehicle to vehicle communications and vehicle to infrastructure communications is, frankly, the code that will connect all of these technologies together that will work in the snowstorm, that will connect highly automated vehicles with less automated vehicles. So that, to us, would be a significant answer -- policy and technology answer to your question.

The Chairman. All right. It appears my time has expired.

Chairman, thank you again for your leadership on this. I know everybody on the committee is very intrigued by what you're doing here and the drafts and where we might head. So I yield back.

Mr. Latta. Thank you very much. The gentleman yields back.

The chair recognizes the gentlelady from Michigan for five

minutes.

Ms. Dingell. Thank you, Mr. Chairman. I want to thank you and your staff for all of the hard work on these bills. Taken together, they are an important step in the right direction to unleashing a safe autonomous future and I think for everybody in the room the way that they were drafted was to allow complete discussion of the various issues for people to express their concern, to not have this mammoth bill that nobody can read.

But it is, obviously, a subject that is the future, has many issues connected with it. I am committed to working with my colleagues on both sides of the aisle to pass bipartisan legislation -- it would be nice to say nonpartisan -- why does the world always have to be Republican, Democratic -- American legislation that protects safety.

There is nobody that is more bugaboo about cybersecurity than me. I didn't get a Kroger card for years because I didn't think it was anybody's business what I bought. And the motor vehicle safety issue we are trying to address -- how do we -- people don't realize that legislation right now is out of date.

It is 50 years old and it has not kept up with technology and it is moving so rapidly. How do -- Joan Claybrook is in the audience. She's been a hero of mine for a long time.

How do we, in our ever-changing world, make sure what she's

fought for a lifetime is there but that we aren't becoming outdated in this country because we are not keeping up. These are real issues that we need to talk about honestly and try to figure out.

That said, I think it is very important we have clear rules of the road for federal and state authorities when it comes to AVs.

As you know, I represent the employees of a number of OEMs -- yes, I am a car girl and I am proud of it -- who are investing in a lot of autonomous vehicle development.

Those companies agree that establishing clear responsibilities for federal and state authorities is essential.

They also agree that we need a mechanism that will allow autonomous vehicles to be deployed in a safe and responsible manner. The PAY, ROAD, and EXEMPT Acts are designed to do that.

Could I ask you all quickly whether you share that view and how will these bills help facilitate safe and responsible deployment? We will start with you, Mr. Bainwol.

Mr. Bainwol. Sure. It is the combination of the two that is vital. You both need a national framework so that there is not confusion and you can -- you can design to a single national approach.

But you also need exemptions, and exemptions are not

willy-nilly. This is a process where you will -- where you will have to submit evidence to NHTSA, and if NHTSA does not feel like the evidence warrants the exemption it will not be granted.

This will take months. There will be public comment. So the notion that this is just the Wild West is not accurate.

The combination of the two -- the national framework and the ability to invest a substantial amount of money and have -- and have exemptions and a number were you can drive a return is crucial. One without the other does not work.

Ms. Dingell. Mr. Strickland, we are going to have to go fast. I got a minute and 52 seconds and 20 questions is not going to work. But keep going.

Mr. Strickland. Ms. Dingell, I align with Mr. Bainwol's assessment. I will make it that quick and easy, and I can expand LEAD'R.

Mr. Morrison. So I would say two things.

First, the statute is not out of date in terms of being able to do this particular job of writing standards. Second, my -- if I were in charge I would say direct NHTSA to begin work on standards immediately and start down the road and stop relying on voluntary guidance.

That's the best way to strike the balance between state involvement and federal involvement. If the federal government doesn't get involved, the states are going to fill the vacuum.

Mr. Wallace. So we at Consumers Union Consumer Reports we are not opposed to testing. We are not opposed to the idea if exemptions. But first I want to note that not all highly automated vehicles will need exemptions.

And second of all, we need across the board criteria for when exemptions are granted and how to apply for them so that it is clear to the public what assurances are provided about their safety.

Ms. Dingell. Any other comments?

Mr. Wallace. I agree with Mr. Bainwol's comments earlier.

Mr. Bozzella. Yes. I agree also. We have a language problem, right. We have -- we have rules -- Federal Motor Vehicle Safety Standards that refer to mechanical devices in human beings and we need an opportunity in the near term to responsibly, with safety first in mind, deploy vehicles while the agency does its work.

Mr. Morrison. May I say there is -- those standards are not a barrier to testing. The tests can go on right now with those existing standards because the statute says that the standards do not apply when there is testing going on.

The big divide is between testing and deployment. Testing means that the auto companies have qualified people in these vehicles or running them. Deployment means anyone can do it. That is the big divide.

Ms. Dingell. I want to say that we agree that when it is deployed that we address that motor vehicle safety -- there is some differences here.

Mr. Chairman, I'd like to put more questions in the record. Michigan shares with California wanting to be at the forefront making sure that this is safe. But we got to keep moving. So thank you very much.

Mr. Latta. Thank you very much. The gentlelady's time is expired.

The chair now recognizes the gentleman from Mississippi, the vice chair of the subcommittee, for five minutes.

Mr. Harper. Thank you, Mr. Chairman.

Mr. Strickland, in your testimony you mention the numerical and temporal limitations on exemptions under current law.

Can you please explain why such limitations may present really concrete obstacles to the development and deployment of self-driving cars?

Mr. Strickland. Yes, sir. The bottom line being is NHTSA lives on data. The only way that you get data is, frankly, ultimately by real-world experience and, frankly, deployment and testing are, frankly, our tongue and groove.

So having the ability to test beyond, you know, 2,500 vehicles for two years is, frankly -- is a hard limitation that you can't generate the kind of data needed for NHTSA's next

activity. So this expansion thoughtfully done is a very necessary approach.

Mr. Harper. Okay. So if we are talking about that expansion, how will increasing the number of vehicles the manufacturer can get in exemptions help push this technology forward?

Mr. Strickland. Well, I will say -- think about once again you'll never divorce us from safety. It still had to prove equivalent safety in terms of what you're looking at the exemption for, number one, and as administrator of NHTSA for four years, it is -- it is a power that is, frankly, very jealously guarded and very cautiously used.

It has to be well evidenced, as Mr. Bainwol noted in his commentary. So having the opportunity to be able to have an expanded fleet to gather data can inform what's working in the fleet, what's not working in the fleet, what technology is working.

Parts of what the policy that the Obama administration laid out last year gives the vector for the agency to be able to build the case for a future possibility of rulemaking.

Without those exceptions, the agency had nothing to act on and it is going to be inert unless it gets that data. That's why exceptions are so necessary.

Mr. Harper. Right. So speed up the time line is what we

are talking about here.

Mr. Strickland. Absolutely. Yes, sir.

Mr. Harper. Right. If I could, Mr. Bozzella, I have heard some people argue that self-driving cars are good for encouraging the adoption of electric vehicles. Do you have an opinion on that topic?

Mr. Bozzella. Yes, I do, and I think there are people across the spectrum that are looking at this and researching this. I do believe that when you combine these very -- these two very significant technology trends and advancements, one, automated vehicles, especially highly automated and driverless vehicles with changing ownership models, the idea of transportation as a service, those will create demand, in my view, for electric vehicles which have a perfect sort of capital model for that type of business.

In other words, they have a greater up front cost but lower operation costs and so I think you'll see transportation as a service -- providers who are using highly automated platforms adopt electric vehicles as well.

Mr. Harper. Okay. Thank you very much.

Mr. Bainwol, it is good to see you again. I had a chance to visit with you at a reception not too long ago. You know, individuals with disabilities often face those transportation obstacles that we've talked about and from personal experience

it does make daily tasks such as employment and other items very difficult.

Do you see self-driving cars as being a catalyst for breaking down some of those barriers?

Mr. Bainwol. Being a catalyst?

Mr. Harper. Yes.

Mr. Bainwol. Absolutely. There are -- there are an infinite number of benefits from self-driving cars from economic to quality of life.

But the most profound one, in addition to the saving of life, is the quality of life aspect for those in the disabled community.

Mr. Harper. Okay. Do you see your members thinking about the potentials for the disability community as they plan out this and they look at the future and their future business plans for self-driving vehicles? Is this being considered by everyone?

Mr. Bainwol. Absolutely, and not a member but a few years ago Google made a demonstration at Waymo of the blind individual going to a Taco Bell and it was a very vivid demonstration early on in this process that automation has these benefits.

Mr. Strickland. Mr. Harper, may I add in on it?

Mr. Harper. Yes, please, Mr. Strickland.

Mr. Strickland. Absolutely. We are talking about a community of 36 million people that are underserved because of lack of individual transportation choices.

Twenty million of those people, frankly, have the ability to work and be a part of this economy. Our members specifically have talked about this and have integrated disability groups into our coalition as well to think about this -- how do we build a vehicle from the top -- from the bottom up to make sure that it is fully accessible for the variations of the disability community.

So we are very much leaning into that possibility not only for the safety benefits but how do we better serve, frankly, an underserved community that has suffered for way too long.

Mr. Harper. Yes, and this is a question I would like to ask you, Mr. Strickland, and you, Mr. Bozzella, and that is what benefits do you see in creating councils that allow stakeholders, innovators, members of the public with expertise in self-driving cars to engage with public officials?

Mr. Bozzella. I think the public debate is very important. I think manufacturers have a significant role in public education and I think part of that public education process is bringing different stakeholders together to continue to have dialogue about how to deploy these vehicles.

I would say that that dialogue should also include automotive suppliers who are driving a significant amount of this vehicle technology research and development.

Mr. Harper. My time has expired.

Would you agree with what he just said, Mr. Strickland?

Mr. Strickland. Yes. Not only with Mr. Bozzella but also -- I also think about too all those stakeholders but especially those communities that have been affected like the disability community to be able to communicate their issues and their needs specifically but, frankly, everybody along the chain of responsibility in manufacturing and developing vehicles should have a -- should have some say.

Mr. Harper. Thank you. With that, I yield back.

Mr. Latta. Thank you very much. The gentleman yields back the chair now recognizes the gentleman from California for five minutes.

Mr. Cardenas. Thank you, Mr. Chairman. I appreciate this opportunity for us to have this discussion.

I love the fact that the U.S. has always had the most innovative and the strongest auto industry in the world. We should continue to support and grow our auto industry as autonomous vehicles because part of our present and our future.

I believe that we can continue to lead by solving issues, for example, of cybersecurity and privacy and by making sure that autonomous vehicles designed here are used -- here and around the world are the best when it comes to safety today and tomorrow and forever.

That is why we need proper laws and regulations not to get

in the way of American innovation but to hold ourselves to the standard that we have always strived to adhere to and that we have done that is -- that is admired -- American products -- around the world.

We should give our agencies the tools to enforce smart and targeted improvement. I am concerned that some of the language in this draft legislation, specifically the MEMO Act, hurts our ability to make sure customer information is protected by limiting NHTSA and one area -- in one area and FTC to another.

This could prevent us from helping to make sure that cars are not hacked and customer information is protected when we could just allow NHTSA and the FTC to make the determination of who will take on what in the course of their work and this is something that we certainly don't want to make the mistake of making sure we have two departments pointing at each other and say well, that is not exactly my jurisdiction -- somebody else should take care of it. The problem would be when no one addresses those issues.

Mr. Wallace, what consumer data could automated vehicles potentially collect?

Mr. Wallace. These cars are -- it would be an understatement to call them computers on wheels. They are incredibly complex.

They have hundreds of millions of lines of code in them and that goes for automated vehicle -- highly automated vehicles that

are coming down the pike as well as vehicles already on the road today.

So the type of data that they can contain and collect is what you might see collected on the computer.

But then in addition to that, where you go and other things that are directly related to driving. Now, I completely identify and agree with what you were saying about the two agencies, FTC and NHTSA.

These two agencies have different authority and expertise. The FTC is charged with protecting consumers from unfair or deceptive acts or practices.

NHTSA is charged with protecting auto safety. These two agencies should work together. In fact, we were calling for them to be granted the authority to write joint standards.

But what shouldn't be done is to inhibit their work by drawing boundaries that could constrain the authority that they currently have.

Mr. Cardenas. Is there a potential that third party companies could want to buy this information from a car manufacturer?

Mr. Wallace. Yes.

Mr. Cardenas. So if that is the case, wouldn't it help to make sure where those bright lines are about how that information can or can't be transposed from one company to another?

Mr. Wallace. Absolutely, and that is why we are calling for joint standards to make sure that consumers know and now that -- know where their data is going, know who's collecting it and also that they -- that they can trust that companies are having to abide by a legal standard.

Mr. Cardenas. Mr. Wallace is there any recommendation you would have for the current legislation before us in order to help enhance -- to hold our manufacturers to a strong customer privacy standard?

Mr. Wallace. Yes, we support strong joint standards written by NHTSA and FTC jointly and we recommend that the committee grants APA rulemaking authority for those two agencies to write standards together.

Mr. Cardenas. Well, I sit on another subcommittee where we have the FCC before us quite a bit and it appears that when it comes to customer privacy and things of that nature, that particular -- FCC seems to be much more accustomed to dealing with privacy issues, unlike FTC and NHTSA.

So the fact that we have two hopefully able and willing departments willing to tackle this responsibility of the future of autonomous vehicles, I think it is important that we not make the mistake as legislators to leave gaps that could perhaps take years for us to finally say oops, we should have closed that the first time.

I would love to see this legislation move forward with those gaps closed but as of right now, unfortunately, I think that where there are gaps and there are finger pointing, what happens is we tend to have a lot of mistakes before we correct them.

So with that, I am out of time. So thank you very much, Mr. Chairman, for holding this hearing, and I yield back.

Mr. Latta. Thank you very much. The gentleman yields back.

The chair now recognizes the gentleman from New Jersey for five minutes.

Mr. Lance. Thank you, Mr. Chairman, and good morning to the panel.

This committee has a long history regarding auto safety and we have taken the lead in pushing both industry and NHTSA to increase recall efficiency both on the supply and the consumer side.

Mr. Strickland, how do you see self-driving automobiles affecting the rate of recall completion?

Mr. Strickland. Well, it depends on the situation in terms of how this market evolves and how this technology evolves.

The one thing that I think a number of stakeholders and technologists have talked about is that when a level four or level five vehicle can actually be notified of its need to be coming up for a recall or repair, it can actually maybe flip the repair

model as opposed to having for a consumer driving the car to the dealership to get the recall repair exacted.

The car could drive itself -- you know, in off hours it can exact that recall opportunity and get fixed and be back at home before the -- before the consumer needs it.

So, frankly, the technology probably has an opportunity to improve recall remedy rates.

Mr. Lance. Others on the panel, do you have views on this? Mr. Bozzella or Mr. Bainwol.

Mr. Morrison. I just note that the correlation in terms of recall fix is very strong and as the newer the car the more likely the individual is to get it fixed, and the closer the relationship also to the dealer. Those are the two factors -- new car and dealer relationship.

So, obviously, at the advent of the introduction of these the cars will be new and they'll work and because, as David suggested, it is a self-driving car, from a time standpoint it will be easy to accommodate.

Mr. Lance. Thank you.

Mr. Bozzella.

Mr. Bozzella. Yes, I would agree with Mr. Strickland and Mr. Bainwol.

Mr. Lance. Thank you.

I apologize for the redundancy but I feel the statistic

warrants repeating that over 35,000 people died and nearly 2.5 million more were injured in automobile accidents in 2015.

This is a very sobering figure and approximately 95 percent of crashes are caused by human error and I am encouraged by your technology.

Mr. Bozzella, I have seen some reports that claim self-driving cars could free up 50 minutes a day on average for drivers.

This is important in New Jersey, the most densely populated state in the nation, where many of our residents are stuck in traffic on a daily basis during the work week.

Do you have figures as to how you think this might affect the average commute for a constituent of mine in New Jersey?

Mr. Bozzella. I would like to be able to get back to you with a -- with a full set of figures. But I think that the general notion is absolutely correct and I think what we should be thinking about is not only the driverless car -- the highly automated level four, level five car of the future -- but also the congestion benefits of level three cars and also which are safer because congestion is often related to crashes but also the idea of vehicle to vehicle communications which will allow vehicle to travel more closely together very, very safely.

So I think the combination of technologies across the spectrum of vehicles can reduce congestion significantly.

Mr. Lance. Thank you. Others on the panel, do you have a view on this.

Mr. Strickland. I align with Mr. Bozzella's comments.

Mr. Lance. Thank you. Thank you.

Mr. Bainwol, can you share with the subcommittee how self-driving vehicles can provide positive effects on the environment perhaps in the area of emissions and pollution?

Mr. Bainwol. Sure. Absolutely there is value. One of the things about crash avoidance, and self-driving is the ultimate in crash avoidance, is that it aligns safety and environmental objectives.

So cars that -- and it helps in several ways -- cars that don't crash as often because you have less -- you have less congestion so you have less idling time. So you get from point A to point B faster.

But the cars themselves are more efficient and some say 5 to 10 percent more efficient in terms of the drive itself -- no lead foot.

So both for the purposes of avoiding congestion and for the purposes of a more efficient drive and also when you think about the nav benefits, the quickest route of -- there are lots of reasons why this is environmentally positive.

Mr. Lance. Thank you.

Others on the panel? Yes, sir.

Mr. Wallace. I would -- I would just note very briefly that additional research needs to be done to understand with greater certainty what the environmental impact is going to be --

Mr. Lance. Yes.

Mr. Wallace. -- because at this point currently it is not clear whether -- whether automation would lead to cars being more efficient or far less efficient, and in fact word done by the Department of Energy a couple years ago those were the results. It could be -- it could be less. It could be far more.

Mr. Lance. Thank you.

Mr. Bainwol. Actually, if I could -- I have seen Energy work that speaks specifically to the point of environmental value. The question, though, really is whether there is going to be more VMT or less VMT. That's the question.

Mr. Lance. Thank you.

Well, I drive a 2004 Honda Accord stick shift with 2005 -- 200,005 miles on it and maybe the next car I will buy will be one of your automobiles. But it is only 13 years old so I think it is middle aged regarding the Lances.

But I yield back. Thank you, Mr. Chairman.

Mr. Latta. Thank you very much. The gentleman's time has expired.

The chair now recognizes the gentlelady from California for five minutes.

Ms. Matsui. Thank you very much, Mr. Chairman, for having this session here today. As I said earlier, I believe we all have the same goal here. We all want to get autonomous vehicles on the road so we can begin to reduce the number of deaths on our roadways.

I just want to make sure that as we work on a policy framework that allows for the deployment of AVs we ensure that states retain their traditional ability to keep the roadways and residents safe.

We also need to create a level playing field that allows all innovative companies to compete. Competition means that the market will ultimately decide who is able to deliver the most consumer-friendly AV technology.

As we all know, as I said before, historically states have regulated drivers while NHTSA has regulated vehicles. But now the vehicle is the driver.

There are a number of situations where this could cause confusion. For example, today states are able to verify owner insurance information with a human driver. But if there isn't a human driver, the vehicle itself will need to present its insurance information.

Further, AV software must be designed to comply with each state's traffic laws.

Lastly, in order for law enforcement to identify a vehicle as highly automated, states may need to require the labelling

of automated vehicles as part of the vehicle registration process.

All of these situations could overlap with the regulation of vehicle design and communication systems, which is preempted in today's legislation.

Now, I would ask all our witnesses do you believe the draft legislation should provide states with a limited exception, allowing them to create requirements that fall within these precluded areas but only when necessary to perform essential state functions?

And starting with Mr. Bainwol and I would -- quick answers, please.

Mr. Bainwol. I am the non-attorney on the panel. But I think we should respect the traditional roles of the states and the feds and to the extent those are implicated they should be protected.

Mr. Morrison. I would like -- two answers. One is it is not the traditional versus the nontraditional so much as the areas where NHTSA is not regulating versus the areas where NHTSA is regulating.

Ms. Matsui. Exactly.

Mr. Morrison. Second, I want to raise a point on this preemption. The -- what about localities? Should a locality have any authority to say that testing of vehicles or even deployment of these vehicles under an exemption cannot be

permitted in the streets of our town or can only be permitted away from the schools or at certain hours of the day.

It is very unclear. The preemption provision in LEAD'R talks about traffic laws and I don't -- I would call that a traffic law. I am not sure that the industry would call it a traffic law but it is an important question which you would want to talk to your constituents about whether you should have some say in these vehicles coming and when they're coming and going.

Ms. Matsui. I understand, and I would like to hear from the rest.

Mr. Strickland.

Mr. Strickland. Thank you, Ms. Matsui.

I think, frankly, that directionally speaking, the LEAD'R Act is taking the right approach and making sure traditional roles are maintained.

I think there needs to further discussions about those gap areas that Mr. Morrison is talking about. But I do think directionally speaking the LEAD'R Act is taking the right approach and we are looking forward to having further conversations.

Ms. Matsui. Well, I am asking for limited exceptions here. Are you in favor of that?

Mr. Strickland. I think the question is ultimately the situation and the time in terms of what you're looking for. I think specifically speaking I think, frankly, industry looks for

regulatory certainty and I think a -- I think a broader approach to make sure we don't have a patchwork assurances in terms of speed but, clearly, we can certainly understand situations where there may be conversations about particular areas where there is a vacuum.

Ms. Matsui. Absolutely.

Mr. Wallace. To answer your question, I would say yes and I would also say that states should be able to take action to protect their citizens where they're not already protected.

Mr. Day. Thank you for the question.

I believe that the legislation as prepared and written and proposed is sufficient at this point in time. I think it is evolving and it is something that we should continue to monitor and work on.

Mr. Bozzella. I think -- I think we need to strike the right balance between the existing federal requirements to determine what a national vehicle market looks like and design and performance standards while maintaining the state's traditional roles.

I think that is important. I think the legislation does strike the right balance and we'd be open to a conversation about -- to learn more about your concerns.

Ms. Matsui. And my concerns are, I think, concerns of the public, too, and so I think it is important to address them and

not be put in a box here because I think we really need to have these discussions and I truly believe this is really the beginning of the process and I think it is really very important.

I am now running out of time but I want to ask another question here. Tech companies in California have been leaders in the push to develop AVs. It is important that they are able to test their technologies in a responsible manner whether on their own or in partnership with traditional automakers.

Now, the MORE Act is intended to open up testing to more innovators in the AV space. Mr. Strickland and Mr. Day, do you believe the text of the bill adequately allows tech companies to test?

Mr. Strickland. I think there needs to be, frankly -- I think we have an opportunity to think about decreasing discrimination between the tech companies and the OEMs and I think -- I always want to sort of take -- to use in a quick example, Uber and Lyft.

Just a few years ago, those were a fairly small company that had limited impact. They deliver millions of rides a day. So you can't necessarily think about what is a small new entry versus what is an evolved company and making sure that we have, once again, the right balance is very important in terms of making sure that we have equity and competition.

Ms. Matsui. Thank you.

Mr. Day, quickly. I am over time now.

Mr. Day. I agree, and I think when you look at the rideshare programs like Lyft and Uber that will be one of the first ways that we are going to be able to test this technology and I think that will be sufficient as it is related to the MORE Act.

Ms. Matsui. Okay. Thank you very much.

Mr. Latta. Thank you very much. The gentlelady's time has expired.

The chair now recognizes the gentleman from Kentucky for five minutes.

Mr. Guthrie. Thank you, Mr. Chairman, for yielding and Mr. Strickland just said the right balance. I think a lot of things that we are looking for how do we get to the right balance.

My interest -- questions are going to be on the exemptions. In your testimony you mentioned the numerical and temporal limitations on exemptions under current law.

So kind of a complex question here, I guess. But one, I know you talked about it in your testimony but if you could further explain how the exemptions strike the right balance between one's safety and innovation, so we want to make sure that you have the right balance for safety.

Second, can you explain why the limitations, once we -- that they are safe, why the limitations present concrete obstacles to the development of deployment of self-driving cars and how

will increasing the number help move that deployment forward?

Mr. Strickland. Yes, sir. The National Highway Traffic Safety Administration makes its decisions based upon data -- whether or not they are going to take a rule making posture, whether they're going to think about creating a change to the new car assessment program once again to -- and once again acknowledging Administrator Claybrook's fine work -- program began under her time -- all those things need data. The only way you get data is, frankly, is deployment and usage and that generates those necessary components.

So the smaller more limited the opportunity we have to test and deploy these technologies, making sure that once again within they are -- they prove equivalent safely or overall safety to the vehicle, which is already stated in law, so we are not sacrificing safety but generating the data where needed to make wise decisions about this technology in the future.

And the reason why it is a concrete obstacle now limited to 2,500 vehicles over a two-year period there is no way you're going to be able to generate the type of data information needed for, frankly, the companies to be able to innovate thoughtfully and, frankly, the agency to learn about those technologies.

Mr. Guthrie. So we can -- so increasing the exemptions can be done in a way that balance and strike with, say, on balance and safety?

Mr. Strickland. Absolutely. Absolutely.

There is -- I don't think there is anyone on this panel that works with the manufacturing community or the tech community is going to sacrifice safety and NHTSA has the authority under current law to make sure that those exceptions are thoughtfully applied for, thoughtfully and conservatively granted and making sure it generates data without sacrificing the safety of the driving public.

Mr. Guthrie. Thank you. Thank you for those -- that answer.

Mr. Day, could you please explain how the current regulatory structure at NHTSA presents obstacles to the self-driving car industry that may result in America falling behind other nations with respect to the development of this technology?

Mr. Day. You know, as I said in my comments earlier, there is a significant reason for concern and I think when you're looking at -- for example, in the state of California the DMV recently issued 34 permits for autonomous vehicle tester program and of those 34, 12 are from foreign countries.

And so I think this is a, you know, another issue where we are looking at potentially 50 state -- different state regulations that apply to this and causing further delay and the longer that we, you know, prolong this effort it is going to cause more concern globally and the competition is real.

Mr. Guthrie. Anybody else want to comment on that, that question of the current regulation at NHTSA?

If not, then I will yield back my -- so those are my two questions I prepared. I yield back my time.

Mr. Latta. Well, thank you very much. The gentleman yields it back.

The chair now recognizes the gentleman from New Jersey, the ranking member of the full committee, for five minutes.

Mr. Pallone. Thank you, Mr. Chairman.

I have heard concerns that this legislation as written would prevent states from regulating autonomous vehicle safety without a guarantee that NHTSA would step in.

In Mr. Day's testimony, he pointed out that Americans strongly prefer a federal standard when it comes to laws governing autonomous vehicles but in this current package of bills there is no standard and there are no governing laws.

So I wanted to ask Mr. Wallace initially what are the risks to consumers if states are preempted from regulating AV safety and NHTSA does not take action to fill that vacuum?

Mr. Day. Sure. Right now, there are no NHTSA regulations on the books protecting consumers from cybersecurity risks when they hit their vehicles.

There aren't any standards on the books regarding cars that may lead consumers to lose attention in the driving task and,

two, there aren't any standards in place to make sure that they can -- that the car ensures that they -- that they stay plugged in.

There aren't any standards in place to make sure that companies, manufacturers, suppliers, others, submit enough date for NHTSA to be able to assess whether a brand new technology is safe on the road or not and all of these are of great concern and as long as those aren't in place -- as long as those standards aren't in place at the federal level we think states should still have the opportunity to act on behalf of their citizens.

Mr. Pallone. And then, Mr. Morrison, in your written testimony you said that you don't know of any laws where Congress has preempted states from acting on an issue where no federal agencies have taken action. Is that correct?

Mr. Morrison. That is correct.

In my view, it raises serious constitutional questions. The supremacy clause of the constitution says federal law shall be supreme. If there is no applicable federal law how can it be supreme, and that is the question we will have to answer.

Hopefully, we won't get to that point -- that the federal government will step in and issue standards. May I say -- a follow-up to what Mr. Wallace just said, I think it is important to understand in the past when safety innovations have been introduced they haven't fundamentally changed the experience of

the driver and the car.

We haven't had to qualify drivers the way we would have to now. I would be frightened to death if I got into one of these cars and just went off on my own.

But if start allowing the deployment phase with no regulation of the vehicle and no required testing of the driver to see that she or he is capable of driving these vehicles, I am afraid that whatever the safety standards are trying to be built in by the industry we are going to have a lot of problems on the highway, particularly because, as the gentleman pointed out a few moments ago, he has a vehicle that is 13 years old.

It will be a long time before we have autonomous vehicles that comprise the whole fleet and meanwhile we'll be having a mixed fleet of vehicles, some of which will be autonomous and some which -- the kind of cars that we are all driving now.

So before we get to the deployment stage when we are starting to allow individuals who are not specially trained to operate these vehicles I think we have to be very, very careful and the real dangers of both injuring people but also injuring the program in the long run by undermining consumer confidence.

Mr. Pallone. Thank you.

Now, we know the Trump administration has not appointed a NHTSA administrator or an acting administrator. The agency doesn't even have an employee who could testify today on major

legislation that directly affects it.

So let me ask Mr. Wallace in the time remaining, are you concerned that NHTSA may not have the resources or inclination to develop a federal standard on AVs without direction from Congress?

Mr. Wallace. History, including very recent history, has shown that NHTSA is most likely to take action when Congress tells it to do so and so I think that Congress should recognize that and recognize that if it -- if there are actions that the agency needs to take, especially if they pertain to safety standards, it is going to need to ask NHTSA to do it. It is going to need NHTSA to take that action.

Mr. Pallone. All right. Let me ask you two things at once because you only got 40 seconds. Why is it so important that NHTSA take an active role on autonomous vehicle regulation going forward and what action should NHTSA take next to ensure safe deployment of autonomous vehicles? That's for -- I guess, for Mr. Wallace again.

Mr. Morrison. I think the first thing it should do --

Mr. Pallone. Would you rather answer?

Mr. Morrison. -- it should undertake a commitment to start down the process of starting to develop federal standards. If it doesn't start that process it is never going to finish it.

It has a serious resource problem and I would point out that the resource problem is going to be intensified if these exemptions are all being given.

After all, as several of the witnesses have pointed to today, these vehicles are not one size fits all and therefore NHTSA will have to carefully examine each application and I don't think it has the resources to do that now and it is going to be under tremendous pressure to let these cars go on the road and be deployed and I am very worried about that for the driving public.

Mr. Wallace. And very briefly, just to add to what I said, if Congress asks NHTSA to take on new responsibilities or to do new tasks, this -- like I said, this is a chronically underfunded, under resourced agency.

Congress should include funding for the agency if it asks the agency to take on new matters.

Mr. Pallone. Thank you. Thank you, Mr. Chairman.

Mr. Latta. Thank you very much.

The chair now recognizes the gentleman from West Virginia for five minutes.

Mr. McKinley. Thank you. Thank you, Mr. Chairman, and this has been one of the more interesting panels. This is probably the fourth or fifth panels that we've had on this subject and it is one of the two engineers in Congress.

It is a fascinating dialogue about all of this. In fact,

we are going to have a conference this fall back in the district over this subject because we want to explore this further.

But I have got -- I do have some issues or concerns that perhaps go beyond this legislation because I have all the confidence that we will develop a bipartisan approach that will develop this. But I am looking at maybe from 30,000 feet perhaps on something.

Mr. Bainwol, maybe it goes back to you. One of your charts that you put up showed that there was an increase in accidents or deaths in the last few years. Can you just give me a real short version of what's caused that uptick in numbers?

Mr. Bainwol. So there has been a tick-up and it is beyond VMT. We have looked at it preliminarily and we can't give you a totally conclusive explanation but there are a number of factors that are clear.

One is distraction. We think it is about 10 percent of the challenge. It is also older drivers and older cars. There's an enormous correlation between the age of the car --

Mr. McKinley. Okay. If I -- if I could jump in on that, because that is really where I wanted to go is if we have available technology right now to address some of that with seatbelt legislation, possibly glare-proof windshields, breathalyzers that we can use, why aren't -- why isn't the -- why aren't the manufacturers using that as the first step instead of taking this

giant leap over into self, you know, automated cars?

Mr. Bainwol. Well --

Mr. McKinley. Is it the cost? Because that is what they -- when I talk to the auto dealers that is what they tell me. People can't afford the -- all of these provisions.

Mr. Bainwol. There are a range of factors. One is cost. The price of a vehicle has gone up fairly dramatically and much of that is related to compliance and it is becoming increasingly difficult to afford. So that is a part of it.

But there is also the question of what the end result of the investment is and in my -- in my oral I showed that pyramid and the existing challenge that relates to the car is 1 percent. Ninety-nine percent has nothing to do with the car. With self-driving you can deal with the totality of the problem and so the prize there is critical.

Mr. McKinley. And given, again, the time frame here -- we have this constraint on it -- so we talked a little bit about costs and we haven't -- we haven't as a board or as a panel here we haven't really gotten into that other than I have asked that in the previous groups about what is the cost and everyone says they will get back to me and I am going to say three months later no one has gotten back to me because what I was raising the question was this has got -- this has to increase the cost to a household and for one -- for a family in Connecticut or Maryland that has

a $70,000 house -- annual house -- that is their average in Maryland. But in Mississippi it is barely $37,000.

How are people supposed to afford newer cars, especially when you also looked at one of your charts that you talked about -- the older the car, the more liable there is going to be a problem with it.

So are -- how are we going to do this? Is your business -- do you think the automobile's business plan, their strategy here, their -- maybe called your business case is assuming that ultimately we are going to go to some kind of subsidy or tax credits for consumers to be able to have an automobile?

Mr. Bainwol. It is not -- that is not part of any strategy. The --

Mr. McKinley. Do you think that could ultimately lead to this? Because someone -- if they're going to increase costs of the cars, how are they going to be able to do that or maintain them, keeping in mind that many states across the country don't even have automobile inspections.

Now we are going to put this very sophisticated car on the highway without any inspection of that -- that car.

Mr. Bainwol. The early phase of adoption will be through services like Uber and Lyft and Chariot and Maven, and because of that the costs to the consumer will actually be lower than today's use of the vehicle.

Down the road as the technology matures the price point will drop. So the blend of access versus ownership models will evolve. But the -- the first experience as I think Tim alluded to will be through the ridesharing application and there the cost will be low.

Mr. McKinley. So do you -- just for the record, you don't think that the automobile industry is ever going to ask for some subsidy or tax credit so that -- so new buyers will be able to acquire an automobile with this kind of automation with it?

Mr. Bainwol. I have never been part of conversation where the concept has been broached.

Mr. McKinley. All right. Well, I am curious about it because I don't know how -- there is a reason that there are older cars on the highway -- that people can't afford them and now we are going to impose this new standard.

Again, I am fascinated with it. I think it is where we are going to be. But I am still hung up a little bit on how we get to there from a macro view. And we will take care of the regulations on that but how is it going to affect our economy let alone, as Schakowsky mentioned earlier, 4.1 million people losing their jobs that are drivers. I am really curious about the big scheme.

Thank you very much. I yield back.

Mr. Latta. Thank you very much. The gentleman's time is

expired and the chair now recognizes the gentleman from Vermont for five minutes.

Mr. Welch. Thank you, Mr. Chairman. Thank you for calling this hearing and I want to thank the witnesses for great testimony.

There, I think, is a universal agreement that we'd like to have our car manufacturers be the first. We are in agreement that we want safety to not be compromised.

The background here though where I think ultimately when we put pen to paper there is a -- there is a difference is putting any confidence in organization -- governmental entity -- that has some responsibility to say the car is good to go because there is an apprehension among many that where you have a regulatory agency it is going to delay the deployment and it is going to increase the cost. That's the divide here.

But bottom line, at a certain point if these are going to be deployed some entity has to decide yes, it is good to go. So I just want to ask, Mr. Bainwol, who would be the decider that the fleet is ready to go on the road?

Mr. Bainwol. Well, it is NHTSA. I mean, the exemptions will not be enforced unless NHTSA makes the decision to approve them. And I just -- I want to make a point on that.

Mr. Welch. Okay. All right. So, you know, I just -- I want to -- I will let you get to that. But the bottom line, what

you're saying is this public organization is the one that has the final say this car goes on the road?

Mr. Bainwol. It is the safety organization, and I do want to make a point that has been lost in the last few minutes -- that is that NHTSA has broad enforcement and defect authority that applies not just when there is a standard but in the absence of standards when it is an exemption, when it is a test.

Mr. Welch. All right. So what, in your view, does NHTSA need in order to most effectively do the job of protecting public safety? Because, by the way, if we don't have this done right, if we go too fast, one of two things is going to happen.

There's going to be big delays because there will be a reservation to act or there will be a disaster because we acted too toon. And if I were no the deployment side -- the manufacturing side, the last thing in the world I would want is some spectacular crash that totally compromises public confidence that this is good technology.

So what does NHTSA need in order to be -- do its job because a lot of folks in this building thinks the best thing for NHTSA is to starve its budget.

Mr. Bainwol. It needs its existing authority. It needs to be properly budgeted and that is a congressional point, and it needs to act when it feels it needs to.

Mr. Welch. Would the auto industry be willing to have like

a contribution to funding NHTSA to boost its capability to do this work?

Mr. Bainwol. We could talk about it. I mean, it is not something we have discussed. But let me point out --

Mr. Welch. How about -- let me go -- I am sorry. We only have five minutes because I -- I wish I could hear more but I am limited.

How about -- Mr. Strickland, how about you?

Mr. Strickland. Current authority, frankly, is very broad and I think it is very effective in this case. NHTSA -- also remember, Congressman, that NHTSA requires a self-certification of compliance to the standards.

So for the past 50 years basically the automakers have to say that yes, our vehicle complies with all the Federal Motor Vehicle Safety Standards and then NHTSA goes out and tests for compliance randomly.

So your suggestion of a type of approval of where NHTSA sort of signs off on the fleet before it is deployed would be dramatic change in the law that is, frankly, unprecedented and actually creates new problems in and of itself. I think --

Mr. Welch. Well, I actually don't want to create problems. But I want to, like you, ensure safety. So would NHTSA need access to more of the data?

I mean, there is always a proprietary argument about the

data but how can the entity that is charged with certifying safety act without access to that data?

Mr. Bainwol. NHTSA has access to the data. Basically, they have relationships with all the manufacturers to be able to get confidential business information. They have information requests.

There's lots of opportunities for them to get the data they need. That's one of the aspects of the Federal Automated Vehicle.

Mr. Welch. So your -- your view would be that whatever NHTSA needs data wise they should get in order to certify.

Mr. Bainwol. No. There are certain -- there are certain things that, frankly, I think that NHTSA is going to have to justify why they need particular data points. But in terms of safety, if there is an issue NHTSA has the opportunity to ask for and then be able to get it.

Mr. Welch. Is your concern about proprietary information leaking out?

Mr. Bainwol. NHTSA has been very -- has an excellent record in protecting proprietary data. The issue is ultimately going to be whether or not there is going to be -- there being -- there being some ways to compel proprietary and confidential data to be propelled outside.

Mr. Welch. Well, I don't know how we -- you know, Mr. Chairman, this is like -- for me, I see this as a practical issue

and not an ideological issue.

We have got to be certain that the public feels confident that these self-auto -- these self-driving vehicles are safe. We all know that. It has got to happen.

So I would have less confidence if the organization we've assigned the responsibility to say okay, it is good to go, didn't have the information that it wanted and I am reassured by you that I am hearing that NHTSA has a good record of --

Mr. Strickland. They have an excellent record.

Mr. Welch. Yes. Well that is great --

Mr. Morrison. May I -- may I point out?

Mr. Welch. -- and it is the way it should be.

Mr. Morrison. I'd point out, Mr. Welch --

Mr. Welch. Yes, go ahead.

Mr. Morrison. -- that the EXEMPT Act provides that all of the date submitted in connection with these highly autonomous vehicles shall be exempt from public disclosure as confidential business information.

Contrary to the standard practice for years in which NHTSA has been able to exempt a limited amount of trade secret information.

This would be a complete reversal and the public would have no confidence whatsoever that NHTSA was doing the right thing because all this information would be secret.

Mr. Welch. Right. Yes. I only have a few more seconds. I guess I don't have any more seconds.

(Laughter.)

I will just say this. I appreciate the panel, all right, and I appreciate your leadership here. We want to get this done. Some of these practical challenges I think lend themselves to a quiet working group as opposed to kind of a contested approach.

So I thank you, Mr. Chairman. I thank the witnesses.

Mr. Latta. Thank you very much for the gentleman's discussion.

The chair will now recognize the gentleman from Illinois for five minutes.

Mr. Kinzinger. Thank you, Mr. Chairman, and thank you all for being here and taking your time with us today. It is important.

I think -- a couple of points I want to make right off the bat. Safety is the most important thing in all this. I think this is the jump to safety that we've all been looking for.

Illinois lost 998 fatalities last year, up 8 percent from the prior year. Those are a thousand lives that theoretically could have been saved through this.

The other big important point to remember is that this is happening. It is just like with cell phones. I remember in '96

I went to Germany and as an 18-year-old and saw that they were texting for the first time and was awed by that, and they were leading the United States in cell phone technology.

Well, we were able to grab that back and now we basically lead the world on that kind of stuff and this is the competition we are in in self-driving cars. This is a competition against China, against Europe.

We all kind of want to work together but we also want to be the first in leading this technology and so I think that is an important point to remember, even as we think about the employment implications which I think we need to do a lot of work to figure out how to -- how to handle that because that is coming.

Mr. Bozzella, Germany has enacted a law that is paving the way for autonomous vehicles on public roads and the U.K. is working on legislation as well, and I can imagine that across the globe nations are updating their regulations to allow testing and operation of autonomous vehicles on public roads.

How do today's proposals improve the U.S. competitiveness and ensure that we remain the leader in this technology?

Mr. Bozzella. Well, thank you for the question, Congressman, and I -- and I appreciate, first, the sense of urgency here in Congress and with this subcommittee because it is really important.

There is a competition taking place. It is happening all

around the world. What you're doing here with this framework is you are providing a flexible and nimble opportunity to deploy technology while at the very same time assuring the public and the regulator that we are doing this in the safest possible manner and you are doing this in a couple ways.

One is you are building on the notion of safety assurance. This is important. The regulators already recognize that.

Secondly, what you're doing is you are assuring safety by giving the preeminent safety regulator the ability to get this technology on the roadway only if we can assure that we are producing equivalent safety and you are also allowing the regulator to build the database so that they can update their rules which were, frankly, set up in the -- in the world of mechanical automobiles.

That's what you are doing. It is really important we appreciate it.

Mr. Kinzinger. Thank you.

Mr. Strickland, the Safe Driving Coalition supports the four proposed bills to expand NHTSA's authority to permit more highly-autonomous vehicles on public roads for testing and for deployment.

In regards to the MORE Act, can you explain the benefits of expanding the eligible testing entities to include equipment manufacturers, suppliers, universities and new market entrants?

Mr. Strickland. Frankly, you need -- and you don't know where your next innovation is going to come and to be able to have the opportunity to thoughtfully test and test safely and deploy safely in order to generate data and, frankly, new opportunities for innovations to enter into the space is crucial.

Level four and level five vehicles are farther away. Often, you talked about no driver being a part of the driving task ever and level five is in all conditions -- rain, snow, sleet, et cetera.

So you are going to need opportunities to make sure that you can thoughtfully test and deploy these technologies and a broad way to collect data which benefits both the agency, NHTSA, and benefits, frankly, all the innovators and manufacturers.

Mr. Kinzinger. Thank you.

I think it is important to note with all that too we can never foresee what technology and innovations come along or it wouldn't be called innovation.

It would just be called stuff we know, and so it is important to set the framework for these smart ideas and, unfortunately, we would like to admit that the 435 of us here can come up with the best ideas but we can't and people out there can, so provide that.

Last question for Mr. Day. In your testimony, you state

that exemptions are critical to the industry with respect to self-driving cars.

Can you explain by exemptions are critical at this stage in the development of these cars and do you see a benefit to create new exemptions specifically tailored to self-driving cars?

Mr. Day. I don't think we need new exemptions, and thank you for the question. I appreciate your leadership on the committee and I look forward to discussing this issue further but I think exemptions are one way and I think along with preemption of really getting us on the right track and I think it is something that we need to explore.

I think there is another, you know, way of exploring these issues and we should be looking at how they complement each other, going forward.

Mr. Kinzinger. Well, thank you. Thank you all for being here, and I will make up for Mr. Welch going over by yielding back 26 seconds.

Mr. Latta. Okay. The gentleman yields back the balance of his time.

The chair now recognizes the gentlelady from California for five minutes.

Ms. Eshoo. Well, thank you, Mr. Chairman, and especially for extending legislative courtesy to me to participate in this subcommittee hearing, which I am not a member of, but the issues

is of great importance to me, to my constituents and certainly our country. So thank you to all the witnesses and thank you, Mr. Chairman.

As the member of Congress having the great privilege to represent Silicon Valley, I am proud to have essentially a front row seat in the next great revolution now in transportation.

Everyone from the major domestic and foreign automakers to large tech companies and small start-ups are developing AV technologies in Silicon Valley. I have driven on Interstate 280 -- I don't know how many of you have ever been on it -- it is billed as one of the most beautiful freeways in the world -- in a Tesla on autopilot with my heart in my throat. It was on autopilot mode. And I have ridden in a self-driving vehicle developed by a start-up in an old fire station in Menlo Park.

In my view, consumer confidence should be the number-one priority of both the automakers and we, the policymakers, that want to speed deployment of AVs.

Autonomous vehicles have the potential to revolutionize mobility, safety, urban planning and transportation around the world and I want to see America be the leader -- the unquestioned leader in this.

But if consumers don't have confidence in the technology or the policies and the safety regulations that govern it, I think that they'll be hesitant to turn over the controls to a computer.

So I think a very important part of ensuring this confidence is passing the fully bipartisan legislation that will lead to evidence-based regulations by the expert agencies, obviously, instructed by all of you as well.

When Congress first created the Federal Automotive Safety Standards in 1966, the law passed nearly unanimously and I think that we should draw from that and be inspired by it.

The bills before us today represent policy by preemption and exemption rather than directing rulemaking to guide the safe deployment of this technology.

Now, I recognize that there will be some preemption because traditionally the federal government has regulated the vehicle through safety and design standards while the states have regulated the driver through licensing and insurance.

So we have a key role in this. But in an autonomous vehicle, the vehicle is the driver. So the issue of preemption I think by that very definition becomes more complicated.

Today, there are, roughly, the same amount of traffic fatalities in the United States as in 1956, the year that Congress authorized the interstate highway system.

So the -- we have -- I think AVs have the potential to save thousands of lives but consumers won't have confidence in the technology unless they have a sense that their safety is paramount

in both the policy and the technology.

So thank you again, Mr. Chairman, for extending the legislative courtesy to me. I want you to know that I want to very much be involved in helping to shape the policy. This, clearly, needs to be bipartisan and that in and of itself is going to project a message of confidence to the American people in this.

And with that, I will yield back -- oh, I have finished all of my --

Mr. Latta. Well, our technology isn't quite working today.

Ms. Eshoo. Did you speed it up? Did you speed it up? Was this -- was this on automatic pilot? Maybe it was autopilot mode.

But at any rate, thank you very, very much.

Mr. Latta. Well, thank you very much. Appreciate the lady's --

Ms. Eshoo. An important hearing, and I look forward to working with you on it.

Mr. Latta. I appreciate the lady's comments.

The chair now recognizes the gentlelady from California.

Ms. Walters. Thank you, Mr. Chairman.

Consumers' willingness to get into a self-driving car or feel about having their family members ride in a self-driving car is one of the most popular topics in news stories about self-driving cars.

Consumer education seems to fit naturally with consumer

adoption and the public's willingness to try out a new technology that interacts with lots of older cars on the road.

The average lifespan of a vehicle recently increased to 11 years on the road. In addition, we are still years away from the first limited commercial deployment of self-driving cars.

Mr. Bainwol, what role do you see for industry communicating with their consumers about self-driving cars?

Mr. Bainwol. We have a role and some of this is, you know, informally when you buy a car and have kind of a tutorial.

The one thing I would note about consumer acceptance is is there is a relationship between the number of driver assists that you've experienced and your attitude about self-driving.

And so to some extent, over time, as your constituents experience more and more driver assists, the reaction to self-driving transforms in a dramatic fashion. If you have had no experience with driver assists, your attitude is very negative. If you have had lots of experience with driver assists, you have a totally different reaction.

Ms. Walters. Do we know enough about the cars that will be on the road to set parameters for the government to begin educating the public about self-driving cars?

Mr. Bainwol. Conceptually, yes.

Ms. Walters. Okay.

Mr. Day, in your testimony, you warn against too much

specificity with regard to government standards. Why do you believe there is an inherent danger in providing for very specific standards for technology such as self-driving cars that is continually evolving?

Mr. Day. Thank you for the question, and I think we need to kind of step back. I think a lot of the questioning here today -- we are at the beginning stages of this technology, and while we are conceptually aware of what the technology brings there is still a lot of questions to be answered, hence the importance of the testing that we are talking about and having the general framework by which we should have established to go forward.

And so I think, you know, part of what I am trying to do at C_TEC within the U.S. Chamber of Commerce is to work with our state and local chambers and our member companies on truly messaging what they know now and making people feel more comfortable with the technology to understand it, to appreciate it, and to really understand and appreciate the benefits to the disabled, senior citizens, et cetera, and to keep drunk drivers off of the road.

Ms. Walters. Okay, and then I have another question for you.

In your testimony you mention a study conducted by Intel on the economic impact of self-driving cars. Can you please discuss what the study looked at and its results?

Mr. Day. I do not have that in front of me but I would be happy to share that with your office after this hearing today.

Ms. Walters. Okay. Thank you, and I yield back the balance of my time.

Mr. Latta. Thank you very much. The gentlelady yields back the balance of her time.

And now the chair recognizes the gentleman from Texas. I am sorry for getting the order mixed up there. But you are recognized for five minutes.

Mr. Green. Thank you, Mr. Chairman, and I would hope that clock would make sure.

I want to thank the committee for the diligence we have been doing and as a member of it, but I was running back and forth between Energy and Health Care. But I want to thank the chair and the ranking member for this.

I want to experience in our country with some type of self-driving vehicles. You have governors on certain trucks or certain vehicles and -- but this is a whole new experience and I think national standards and the safety ought to be the bottom line on anything.

Mr. Morrison, in your testimony you mentioned there is a number of proposals before NHTSA currently that would enhance safety of all vehicles currently on the road.

Could you please talk about these proposals briefly because

I only have five minutes, and tell us what you think these proposals have -- why they haven't received much attention.

Mr. Morrison. I am sorry. I can't be specific about the details of these proposals. I know that they are there. They are on the DOT's docket. I think Wallace can help you be more specific.

But the principal problem has been two things -- number one, the will of the agency to proceed, the unwillingness of the companies to put the kind of safety first message that they have had here today and, of course, finally, the question of resources for the agency.

Mr. Green. The -- like I said, the only experience we have is somebody controlling the vehicle we are driving is very limited.

Mr. Wallace, automated vehicle innovations gathered steam over the years and you voiced concern about level two and three vehicles -- vehicles that still require an occasional human intervention.

Is there a way we can blend that together? And let me tell you one joke. When I was a young state legislator in the '70s, my wife's grandmother said, I don't like to drive on the roads where we have the older road trucks -- can we build a separate freeway for them.

And I said, well, the gas taxes would really be high if we

had to do that. But having one lane for automated vehicles and maybe other lanes for those of us who may not be driving an automated vehicle.

Mr. Wallace. Thank you, Congressman.

I am not sure about different lanes but what I can tell you is that given our concerns about level two and three vehicles, automakers and dealers will need to be very clear with consumers about what they can and cannot do because too often we have seen marketing or other types of publicity about cars that are -- that have driver assist technology and portraying them as self-driving cars when they are not, and we are very concerned that that could lead to -- could lead to problems on the road.

Mr. Green. And that is what I know the committee doesn't want and that is why we are giving real good diligence to whatever we set up.

Mr. Bainwol, in your testimony you mentioned the Federal Aid to Highway Act of 1956, which allocated $24.8 billion to build about 41,000 interstate highways.

There is widespread agreement that self-driving cars will need well-maintained infrastructure to function including clear lane lines, stop lights and signage. Can you talk about what infrastructure investments you and your members anticipate will be needed to ensure that self-driving vehicle technology can work?

Mr. Bainwol. So self-driving will be a product of the

algorithms of the and the external environment and so the external environment matters a ton.

The simplest of eternal factor is the clarity of the -- of the white lines in the lanes. And so that is a fundamental kind of basic.

But if you -- if you move further down the road, things like vehicle to vehicle communication, vehicle to infrastructure communication, so there are a number of implications for infrastructure down the road.

Mr. Green. Well, I will give an example right now and I think everybody is familiar with Waze in the Houston area I grew up there and I know how to get around traffic. Waze may give us one way.

Would that automated vehicle take that, you know, from the computer and this is the quickest way instead of the driver having any input?

Mr. Bainwol. There will be some application like Waze or Google Maps or some other proprietary mapping nav service that would dictate the route in the fastest, most efficient way.

Mr. Green. Thank you, Mr. Chairman. Again, I thank the committee for their diligence.

Mr. Latta. Thank you very much. The gentleman yields back the balance of his time.

The chair now recognizes the gentleman from Pennsylvania

for five minutes.

Mr. Costello. Thank you, Mr. Chairman.

I want to get a couple things on the record so I will be as quick and, hopefully, you can be as direct as possible.

Mr. Bozzella, buying a car can be very expensive and public transportation options are not available or sometimes inadequate in many communities.

Do you see self-driving cars playing an important role in providing better, more reliable mobility options to those who must rely solely on public transportation?

Mr. Bozzella. Absolutely. Yes, I do.

Mr. Costello. All right.

Mr. Day, in your testimony you state that self-driving cars will benefit American seniors. Can you please explain how this technology will help senior citizens remain independent?

Mr. Day. A number of ways. I think -- you know, my parents in Ohio in their 80s would benefit by having, perhaps if they are not able to drive at some point in their future having medicines delivered from or being able to pick up their own medications at the pharmacy.

They are able to have a car drive them to the grocery store to get their groceries. I think there is a whole host of ways and I think that that is one segment of our society that will benefit, amongst others, as we talked about here -- the disabled

community as well.

Mr. Costello. Mr. Strickland, for some -- I am picking up on that -- access to transportation is a public health issue. Often, inadequate public transportation options stand in the way of receiving care. Do you think self-driving cars will play a role in solving that problem?

Mr. Strickland. Yes. I think what Mr. Day mentioned and Mr. Bozzella mentioned, the opportunities for, frankly, individual mobility for those that are disabled, those that are seniors, and have the ability to get themselves to the doctor, get to the hospital, get to the pharmacy, I think it will be transformational for them.

Mr. Costello. Mr. Bozzella, how -- related to underserved communities, just explain how you view this as being transformational.

Mr. Bozzella. I think there are a number of ways. One is that automated vehicles -- highly-automated vehicles will enable a new business model.

Let us call it transportation as a service, and it will reduce the cost of this service and I think make it much more affordable and accessible to underserved transportation populations.

I think the other -- the other place that you will see automated technology provide mobility to underserved communities is, frankly, the ability to create more safety in rural areas

by deploying level two and level three technologies on vehicles in rural areas.

So I think there are a number of ways we are going to create more transportation for underserved communities.

Mr. Costello. Avis and Waymo, Apple and Hertz, we are continuing to see business partnerships evolve here. Do you expect such business dealings to promote the introduction of fleet and electric self-driving cars? Whomever wants to take that one.

Mr. Bozzella. I agree with that. I testified to that point earlier and I think -- I think what will happen is is electric vehicle platforms and the cost model for electric vehicles' higher up front cost but lower operating costs will fit with a fleet first automated vehicle strategy deployed by fleets.

Mr. Costello. Another observation I have is the -- you know, a car driving itself ultimately is going to see to it that everybody is going to have that technology accessible.

But the software side of this, you know, and we can go -- we can just look at anti-trust litigation within the space of certain companies owning certain software and whose computer systems it can get on.

I see the day when it is the software piece of this and updates and a new type of application or a new software product wanting to make its way into one specific car or a fleet of cars.

Share with me, if anyone has these thoughts, about how to

shape legislative policy so that we are not walking into the day when we are going to be dealing with that set of issues, which, obviously, has been front and center in the traditional tech world for quite some time. Or is it just unavoidable?

Mr. Bainwol. I think the simplest thing is to recognize that as NHTSA does its work it should be nonprescriptive and should be technology neutral. Let the marketplace work.

Mr. Day. I think -- let me just add on very quickly -- I mean, again, we are at the very early stages here and this is not the only time that we are going to be looking at legislation addressing this issue.

I think where we are right now, the legislation and the proposals that we have in front of us are adequate and as we have the testing done and as we learn more then perhaps that will, you know, require us to come back and think through some of the issues that you mentioned.

Mr. Bozzella. And I would just add one more comment and it comes up in the -- I believe it is called the MORE Act -- I do think that you want to make sure that a number of responsible companies have the ability to test.

So not only what we would consider automakers but also auto suppliers that are increasingly developing the software you're talking about, increasingly deploying the technology that you talked about.

Mr. Costello. Yes. I just wonder if there is a point in time where this just falls outside of NHTSA's jurisdiction if we are dealing in purely computer intelligence issues.

But my time has expired. Thank you for your answers. I yield back.

Mr. Latta. Thank you very much. The gentleman's time has expired and seeing that there are no other members that are here to ask questions, I want to thank our panel today.

You can tell there is a lot of discussion, a lot of interest in having you hear before us today. Before we do conclude today I would like to include the following documents to be submitted for the record by unanimous consent -- the letter from the Competitive Enterprise Institute, letter from Property Casualty Insurers, a letter from American Car Rental Association, a letter from MEMA, a letter from CTA, a letter from Advocates for Highway and Auto Safety, a letter from Consumer Watchdog, a letter from SAFE, a letter from ITS America, a letter from NAMIC, a letter from EPIC. And does the gentlelady have a --

Ms. Schakowsky. Yes, I do. I wanted to add to the record a document from the Center for American Progress a report entitled, "The Impact of Vehicle Automation on Carbon Emissions."

And if I could just say a number of those submissions came from our side. They include important specific feedback on the 14 bills before us and what is missing from those bills, in our

view, and I urge my colleagues to look closely at the submissions from safety advocates and other interested parties.

We will need to carefully weigh their concerns as we move forward, and I hope very much that this could be a bipartisan safety-focused legislative package.

I yield back.

Mr. Latta. Thank you very much, and for the two letters the lady submitted, without objection it will be added to the list.

[The information follows:]

**********COMMITTEE INSERT 7**********

Mr. Latta. Pursuant to committee rules, I remind members that they have 10 business days to submit additional questions for the record. I ask that witnesses submit their responses within 10 business days from upon receipt of the questions from the members.

Without objection, the Subcommittee is adjourned. Thank you very much.

[Whereupon, at 12:28 p.m., the Subcommittee was adjourned.]