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6 SELF-DRIVING VEHICLE LEGISLATIVE FRAMEWORK: ENHANCING  
7 SAFETY, IMPROVING LIVES AND MOBILITY, AND BEATING CHINA  
8 WEDNESDAY, JULY 26, 2023

9 House of Representatives,

10 Subcommittee on Innovation, Data, and Commerce,

11 Committee on Energy and Commerce,

12 Washington, D.C.

13

14 The subcommittee met, pursuant to call, at 10:32 a.m. in  
15 2322 Rayburn House Office Building, Hon. Gus Bilirakis,  
16 [chairman of the subcommittee] presiding.

17

18 Present: Representatives Bilirakis, Bucshon, Walberg,  
19 Duncan, Dunn, Lesko, Pence, Armstrong, Allen, Harshbarger,  
20 Cammack, Rodgers (ex officio); Schakowsky, Dingell, Soto,  
21 Trahan, Clarke, and Pallone (ex officio).

22

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23           Also present: Representatives Latta, Obernolte; and  
24           Veasey.

25

26           Staff Present: Michael Cameron, Professional Staff  
27           Member; Sydney Greene, Director of Operations; Jessica  
28           Herron, Clerk; Tara Hupman, Chief Counsel; Sean Kelly, Press  
29           Secretary; Tim Kurth, Chief Counsel; Carla Rafael, Senior  
30           Staff Assistant; Brannon Rains, Professional Staff Member;  
31           Teddy Tanzer, Policy Director; Zane Mandle, Intern; Hannah  
32           Anton, Minority Policy Analyst; Ian Barlow, Minority FTC  
33           Detaillee; Waverly Gordon, Minority Deputy Staff Director and  
34           General Counsel; Daniel Greene, Minority Professional Staff  
35           Member; Tiffany Guarascio, Minority Staff Director; Lisa  
36           Hone, Minority Chief Counsel, Innovation, Data, and Commerce;  
37           Joe Orlando, Minority Junior Professional Staff Member; and  
38           Anthony Choi, Minority Intern.

39

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40 \*Mr. Bilirakis. The committee will come to order.

41 I ask unanimous consent that the members of the full  
42 committee waiving on to this subcommittee today be able to  
43 participate.

44 Without objection, so ordered.

45 Good morning, everyone. The chair recognizes himself  
46 for five minutes for an opening statement.

47 Again, good morning, everyone, and welcome to today's  
48 legislative hearing on self-driving vehicles, also known as  
49 autonomous vehicles, or AVs. The work we do in this  
50 subcommittee is foundational to America's economic future and  
51 national security. It is essential we secure our country's  
52 leadership in emerging technologies to transform Americans'  
53 lives.

54 When the subcommittee began working on AVs under  
55 Republican leadership over six years ago, I don't believe  
56 anyone thought it would be back to square one today in 2023.  
57 But here we are, re-examining similar legislation that had  
58 previously passed the House unanimously, and that many  
59 members of this committee on both sides cosponsored -- and we  
60 have the prime cosponsor here, Mr. Latta, today.

61 It is sad and unfortunate that we haven't been able to

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62 do anything in this space, given all we can benefit from this  
63 technology. And we know our adversaries aren't waiting.  
64 This hearing serves as an opportunity to level, set, and  
65 discuss why it is dire for us to move legislation forward,  
66 and not give in to ancillary demands from those who wish to  
67 keep the U.S. in the 20th century.

68 By NHTSA 2022 estimates 42,795 Americans lost their  
69 lives in crashes, unfortunately. And for the first 3 months  
70 of this year, approximately 9,330 lives were lost. It is  
71 clear the status quo is unacceptable. This technology can  
72 help roll back these sad fatality statistics, solving the  
73 issues of human limitation, impairments, and inattentiveness.

74 We are also in a race against the clock with China.  
75 While the United States has failed to advance a national  
76 framework that expands testing and deployment, China has  
77 unveiled a national strategy to boost testing and deployment  
78 throughout their country. Any more inaction from Congress  
79 will result in the Chinese defining and owning the technology  
80 and its supply chain. We cannot let that happen, folks.  
81 Enacting a national regulatory framework without top-down  
82 taxpayer subsidies is the true path to securing the future of  
83 our AV economy.

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84 I am pleased that the first hearing of this year focused  
85 our competitiveness with China, with -- Jeff Farrah from the  
86 newly formed Autonomous Vehicle Industry Association  
87 testified on the need to get this done this year. As he laid  
88 the case out clearly, America must not lose our edge and see  
89 this lifesaving and transformational technology to those who  
90 don't hold our values.

91 It is also important to think about who this technology  
92 will benefit. Many of us take for granted our ability to  
93 drive a car either to our jobs, to visit friends or family,  
94 or run errands. But millions of Americans don't have that  
95 luxury. In fact, today marks the 33rd anniversary of the  
96 Americans with Disabilities Act, and that was passed in a  
97 bipartisan -- Senator Dole led that. So just as that law  
98 made sure to protect people living with disabilities from  
99 discrimination, we can draw parallels to the bills we are  
100 discussing today.

101 I want to thank Mr. Latta again for including language I  
102 championed in this discussion draft to ensure people living  
103 with disabilities cannot be discriminated against from  
104 receiving a license to access this technology, and for  
105 ensuring the manufacturers keep in mind how to design their

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106 vehicles so that all people can use them, regardless of their  
107 disability.

108       Of course, these vehicles must be affordable.

109       Studies have shown how impactful AVs will be for  
110 transportation and mobility, especially for people living  
111 with disabilities, and we should certainly not be dictating  
112 who can and cannot access them.

113       So we have Mr. Riccobono. I want to thank you for  
114 testifying today and sharing how much this will transform the  
115 lives of people living with disabilities.

116       AVs hold so much promise for everyone in this country,  
117 in my opinion. So let's make sure this promise ends up a  
118 reality for everyone, and not just a proportion of the U.S.  
119 population.

120       I want to thank Mr. Latta again for his tireless work,  
121 his persistence to work to make America the home of  
122 manufacturing the vehicles of this future -- of the future,  
123 and for Mr. Walberg's efforts to ensure that Chinese auto  
124 companies don't take advantage of our openness, just as their  
125 tech companies have. So I want to thank you, I want to thank  
126 the panel for testifying today.

127       [The prepared statement of Mr. Bilirakis follows:]

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128

129 \*\*\*\*\*COMMITTEE INSERT\*\*\*\*\*

130

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131           \*Mr. Bilirakis. And I yield back. The Chair recognizes  
132 the ranking member, Ms. Schakowsky, my friend, for five  
133 minutes for her opening statement.

134           \*Ms. Schakowsky. Thank you, Mr. Chairman. Thank you  
135 for the witnesses that are here today, and thank you for the  
136 good turnout at this hearing.

137           I know there is a lot of interest in autonomous  
138 vehicles, and they do hold a great deal of promise,  
139 particularly when it comes to issues of safety. As you heard  
140 from the chairman, we are looking at over 40,000 people who  
141 are losing their lives on the highways, and we are hoping  
142 that it will reduce. And he also talked at length, which I  
143 totally agree on, the issue of accessibility, to make sure  
144 that all Americans are able to move around in the ways that  
145 they want and need to do, and ways that they have not been  
146 able to do before.

147           But at the same time we know that there are a number of  
148 unanswered questions that we are going to have to answer  
149 before we are able to totally move forward. I am not saying  
150 that we should slow down, but we certainly want to answer the  
151 questions.

152           For example, we have heard reports of AVs that are



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153 disrupting emergency services, that are snarling traffic, and  
154 obstructing public transit.

155         We have certainly heard -- have concerns about the --  
156 about workforce issues. I continue to hear from worker  
157 owners in -- that are making their living driving right now.  
158 We are looking at about four million Americans who do make a  
159 living driving professionally. We have to make sure that we  
160 consider the -- that huge change, and Americans should have  
161 their [sic].

162         And finally, the third thing that I wanted to raise as  
163 an issue is that Americans should have the same right to seek  
164 justice in the courts when they are dealing with autonomous  
165 vehicles, if they are harmed, as they are with current  
166 vehicles right now.

167         And all of these are open questions right now that they  
168 are -- that we are absolutely going to have to deal with. I  
169 know that a lot of work has been done for many years on this,  
170 and a lot of conversation has been done. But I think these  
171 important issues of safety, of workforce, of access of  
172 consumers to justice are still not entirely, entirely  
173 resolved.

174         I want to say a special thank-you to leaders, including

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175 on our side of the aisle: Debbie Dingell, who really has  
176 been working for so many years to come up with legislation.

177 But I want to make it clear that I look forward to  
178 working in a bipartisan way to getting this done. I know  
179 there is a lot of urgency about getting it done, but let's do  
180 it right. Let's work together. We can make our roads safer,  
181 our consumers more flexible in their travel options, make  
182 sure that consumers are protected. I know that we can get  
183 this done in this wonderful subcommittee and beyond.

184 [The prepared statement of Ms. Schakowsky follows:]

185

186 \*\*\*\*\*COMMITTEE INSERT\*\*\*\*\*

187

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188           \*Ms. Schakowsky. And with that I yield back my time.

189           \*Mr. Bilirakis. I thank the ranking member and now I  
190 yield to the chairman of the full committee, my good friend,  
191 Mrs. Rodgers, for her five minutes of opening statement.

192           \*The Chair. Thank you, Mr. Chairman, Ranking Member, I  
193 too want to say thank you to all the members who have been a  
194 part of bringing us to this place: Mr. Pallone, Mrs.  
195 Dingell, and certainly Mr. Latta.

196           I too am very optimistic. I am excited about what  
197 autonomous vehicles, self-driving cars are going to mean to  
198 so many Americans, truly transformational. You know, I think  
199 about our oldest son, Cole. He was born with Down syndrome.  
200 He recently turned 16. And like most 16-year-olds in  
201 America, he is really excited about getting a driver's  
202 license. Now, Mom and Dad aren't quite as confident here  
203 yet. But, you know, I think about Cole. I think about  
204 others living with a disability and what self-driving cars  
205 will mean to providing amazing mobility options, transforming  
206 their lives.

207           But is beyond that. It has the potential --  
208 self-driving vehicles have the potential to break down  
209 transport barriers, unleash more opportunities, more freedom,

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210 more independence. It will mean safe, reliable ways to get  
211 to work, go to the doctor, get education, and so much more.

212 Self-driving cars have the potential to reduce death and  
213 injuries on our roads, tens of thousands of Americans that  
214 are killed every year on our roads, many due to human error  
215 and impaired driving.

216 It will help ensure our transportation future isn't  
217 reliant upon supply chains from our adversaries, and prevent  
218 China from controlling the AI and machine learning  
219 technologies and insights gained from this technology. The  
220 U.S. is currently at risk of ceding leadership to China.  
221 China is currently moving forward with ambitious plans to  
222 lead development and deployment of this technology. We all  
223 know that we cannot trust the Chinese Communist Party to set  
224 standards for this industry, and we certainly cannot trust  
225 them to protect our data and our individual rights.

226 These standards and a regulatory framework must be led  
227 by the United States of America. So last Congress the  
228 committee Republicans wrote to Secretary Buttigieg raising  
229 concerns about U.S. approval for Huawei to buy our  
230 semiconductor technology for its growing auto business. And  
231 sadly, two years later, we have not received a response. And

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232 the National Highway Safety -- Traffic Safety Administration  
233 declined our request today to testify, despite weeks of  
234 notice.

235 China's ambitions in this industry prevent -- present a  
236 critical economic and national security threat to our  
237 country, especially when you consider seven Chinese car  
238 manufacturing -- car companies testing on our roads today, at  
239 least seven testing their self-drive technology, technology  
240 that includes video cameras on every car it produces. So I  
241 would also like to thank Mr. Walberg for the language that he  
242 has contributed as a part of this discussion draft today that  
243 reins in Chinese company testing on our roads. This  
244 important technology cannot be overstated.

245 The journey alone to deploying self-driving vehicles is  
246 going to deliver many benefits, some we haven't even thought  
247 of. America must lead, not China. The goal today is to make  
248 sure that America continues to lead in the auto sector for  
249 the next 100 years and beyond, and self-driving cars are a  
250 part of that.

251 [The prepared statement of The Chair follows:]

252

253 \*\*\*\*\*COMMITTEE INSERT\*\*\*\*\*

254

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255           \*The Chair. I am pleased to yield the remainder of my  
256 time to the leadership of Mr. Latta on this issue.

257           \*Mr. Latta. Well, I thank the gentlelady for yielding.  
258 I also thank the chairman for allowing me to waive on today.

259           American automotive leadership is vital for the future  
260 of our national security, and autonomous vehicles aren't just  
261 the future, they are the present. And the harsh reality is  
262 the United States is already falling behind the global stage.

263           Communist China poses an immediate threat to our  
264 national security through the use of the driverless cars  
265 within our very borders. As the chair of the Communications  
266 and Technology Subcommittee, I am all too familiar with our  
267 ongoing efforts to rip and replace Communist Chinese  
268 technology from our communications infrastructure. If we do  
269 not ensure our laws support innovation, the United States  
270 will be forced to consider how to secure our roadways after  
271 communist China has already collected massive amounts of data  
272 on our transportation systems.

273           We have the privilege on the Energy and Commerce  
274 Committee to look over the horizon and enact laws and  
275 regulations that pave the way for American innovation and  
276 global leadership. In the 115th Congress I felt strongly

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277 that AV technology and an AV Federal framework were the next  
278 frontier for legislative action within this committee.  
279 Although I have remained focused on meaningful legislation  
280 action over the last six years, I have been disappointed in  
281 the lack of bipartisan action by some on AVs.

282 Finding a solution is essential. Over the last several  
283 months I have been working closely with my friend across the  
284 aisle, the gentlelady from Michigan's 6th district, to craft  
285 a solution through a Federal legislative framework. I am  
286 committed to continuing those conversations, drafting a bill  
287 that supports the safe development and deployment of fully  
288 autonomous technology. The time to act is now. With a  
289 Federal roadmap for autonomous vehicle deployment, we as  
290 Americans all win. We simply cannot sit back and watch other  
291 countries, especially our adversaries, lead because we cannot  
292 work together to come to an agreement.

293 I am pleased we are furthering this discussion at  
294 today's hearing, and I look forward to the hearing and  
295 hearing from our witnesses.

296 [The prepared statement of Mr. Latta follows:]

297

298 \*\*\*\*\*COMMITTEE INSERT\*\*\*\*\*

299

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300           \*Mr. Latta. And I yield back to the gentlelady. And  
301 again, thank you to the chairman.

302           \*Mr. Bilirakis. The gentlelady yields back.

303           I want to personalize this, as well. I have a severe  
304 disability, a visual disability, and I waited until -- it was  
305 probably my parents who wanted me to wait until I was 18  
306 years old before I got a valid driver's license. And I did  
307 get the license, and had to go to the ophthalmologist to make  
308 sure that that was okay to drive.

309           But I have been very limited in my driving, and I have  
310 restricted myself, even though the license doesn't restrict  
311 me in any way. I don't -- no night driving, and just around  
312 the local area. But you know, if we had these self-driving  
313 cars I would not be restricted. And who knows in the future  
314 if I can qualify to get a license because of the  
315 disabilities. So I think it is very important that we work  
316 on this. Time is of the essence, and I appreciate the  
317 bipartisan work that we have done in the past, and I want to  
318 get this done for the American people.

319           So in any case, now I am going to yield to my good  
320 friend, the ranking member, Mr. Pallone, for his five minutes  
321 of opening statement.



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322           \*Mr. Pallone. Thank you, Chairman Bilirakis.

323           Autonomous vehicles hold the promise of improving  
324 safety, expanding mobility, and growing our economy for the  
325 future. Fortunately, our nation holds a competitive edge in  
326 developing and deploying these technologies. According to  
327 KPMG, the United States is among the top five most prepared  
328 countries for AVs. By contrast, Japan ranks eleventh,  
329 Germany ranks fourteenth and China ranks twentieth.

330           But we must preserve and expand this advantage by  
331 charting a course that is also in line with the fundamental  
332 American values of safety, equity, and workforce protections.  
333 AVs will not save lives if they do not operate safely and  
334 adhere to state and local traffic laws. They will not bridge  
335 the mobility divide if we weaken enforcement of the Americans  
336 with Disabilities Act and preempt state and local  
337 accessibility laws. AVs will not benefit society if crash  
338 victims and their families do not have a right to seek  
339 justice in the courts. And AVs will not create jobs and grow  
340 wages if we don't address how AVs may displace workers.

341           We also cannot simply dust off six-year-old legislation  
342 and ignore the substantial issues that have emerged in recent  
343 years. We can now see these vehicles in action: troubling

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344 safety incidents are mounting, liability loopholes are  
345 emerging, workforce impacts are becoming more apparent.

346 So I appreciate the Republican majority's willingness to  
347 discuss drafts offered by Representatives Dingell and Latta  
348 at this hearing today. I have committed to both of them to  
349 work together to find a bipartisan path that promotes the  
350 safe, responsible deployment of AVs, and I hope the  
351 Republican majority will allow their bipartisan process to  
352 move forward and to bear fruit, because a partisan approach  
353 stands no chance at ever becoming law.

354 [The prepared statement of Mr. Pallone follows:]

355

356 \*\*\*\*\*COMMITTEE INSERT\*\*\*\*\*

357

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358           \*Mr. Bilirakis. But I would now like to yield the  
359 remainder of my time to Representative Dingell, the author of  
360 one of the discussion drafts, who continues to push us that  
361 we must address this and pass some legislation. I yield to  
362 Representative Dingell.

363           \*Mrs. Dingell. I thank the ranking member, and I am  
364 thanking for him listening to my pushing.

365           [Laughter.]

366           \*Mrs. Dingell. But Michigan put the world on wheels,  
367 and is the global center of automotive manufacturing and  
368 innovation, and we must keep it this way. We must keep  
369 American leadership. And today Michigan is the tip of the  
370 spear for the autonomous vehicle, AV, revolution. I will  
371 give -- Ohio is right there with me.

372           [Laughter.]

373           \*Mrs. Dingell. We always have a little of Michigan-  
374 Ohio. But Michigan-Ohio together is a team you can't beat.  
375 From -- Go Reds.

376           [Laughter.]

377           \*Mrs. Dingell. See, I wore red for you today to show  
378 the bipartisanship in more than one way. Hopefully, nobody  
379 got that on camera.

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380           Anyway, I firmly believe in the promise of AV  
381 technology: improved safety, expanded mobility, and greater  
382 economic prosperity. But if the United States is going to  
383 stay at the forefront, Congress must pass a comprehensive,  
384 bipartisan Federal AV framework that supports safe,  
385 responsible deployment of AVs, and addresses the issues that  
386 my colleague, Ranking Member Pallone, addressed. And that is  
387 why I am locked arms with my good friend, Representative Bob  
388 Latta, and co-lead the SELF DRIVE Act, which passed the House  
389 in the 115th Congress, and it is why we have continued to  
390 work on bipartisan, bicameral efforts to revive AV  
391 legislation ever since.

392           Despite our best efforts, comprehensive AV legislation  
393 has not been enacted. Concerns persist. And additionally,  
394 as others have expressed, I am concerned that China and other  
395 countries are taking advantage of our inaction.

396           At today's hearings we will hear from witnesses about  
397 draft legislation that we have been working on for more than  
398 a year, legislation that I believe can break the logjam. It  
399 represents a vision that can address the issues that have  
400 emerged over the last six years since we passed the SELF  
401 DRIVE Act. And over the course of the last year, we have

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402 been in meaningful and productive conversations with  
403 Representative Latta on that legislation.

404 I want to make it clear. Between Mr. Latta and I, we  
405 have met with every stakeholder. We talk to each other about  
406 what every stakeholder is saying. We know the issues, we  
407 know what keeps killing this bill, and we are going to get a  
408 compromise if it kills us to get this bill done.

409 [Laughter.]

410 \*Mrs. Dingell. Listen, I know that -- and I also -- I  
411 really want to thank Chairman Cathy Rodgers, who came to me  
412 right after she became chairman and said, "I want this to get  
413 done. I want this bipartisan bill.'" And my dear friend, my  
414 sometimes chairman, now today ranking member, who does get  
415 tired of my nagging, but he knows how important it is.

416 Between these two draft bills we are considering today I  
417 see a real path forward on achieving bipartisan legislation.  
418 My bill is not perfect. John Dingell used to say no bill is  
419 perfect. In today's world the Ten Commandments that Moses  
420 brought down wouldn't be. But it is a base to work with, and  
421 I do -- I want to work with all the members, all the  
422 stakeholders. We want your honest feedback. We want to know  
423 what you like, what you don't like, what is missing, and what

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424 should be struck.

425           Look, these are going to be tough, difficult  
426 conversations. They have been for the last four years. But  
427 I am tired of people trying to pit us against each other,  
428 divide us against each other, then send a bill over to the  
429 Senate that everybody knows is going to go nowhere. The  
430 House got a bill done, and got it through unanimously. We  
431 want you to work with us. We want to get this done.  
432 Compromise is not a dirty word. And I am going to be locked  
433 arm in arm with my colleague, Mr. Latta. Messaging bills  
434 don't cut it. They don't get the job done. We need to come  
435 together. And that is one of this committee's greatest  
436 strengths.

437           Let me be clear: I am committed to coming together.

438           [The prepared statement of Mrs. Dingell follows:]

439

440 \*\*\*\*\*COMMITTEE INSERT\*\*\*\*\*

441

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442           \*Mrs. Dingell. And I look forward to today's hearing,  
443 and I yield back.

444           Thank you. Mr. --

445           \*Mr. Bilirakis. The ranking member yields back, and I  
446 want to thank the gentlelady for her passion on this  
447 particular bill.

448           And yes, you are right. Chairman Dingell worked in a  
449 bipartisan fashion and got a lot of things done because -- I  
450 know, I was there. My dad was there, anyway, and I was a  
451 spectator. And he is a legend, and we have got to do this in  
452 his memory.

453           So our witnesses today are John Bozzella, the president  
454 CEO of the Alliance for Automotive Innovation. We have  
455 Philip Koopman, associate professor at Carnegie Mellon  
456 University.

457           Welcome.

458           Mr. Gary Shapiro, president and CEO of the Consumer  
459 Technology Association.

460           Welcome.

461           And Mark Riccobono, who is the president of the National  
462 Federation of the Blind.

463           Welcome, sir. We will have Mr. Bozzella begin.

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464           So you are recognized, sir, for five minutes.

465           \*Mr. Bozzella. Chair Bilirakis --

466           \*Mr. Bilirakis. We appreciate you being here, again.

467   Thanks.

468



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469 STATEMENT OF JOHN BOZZELLA, PRESIDENT AND CEO, ALLIANCE FOR  
470 AUTOMOTIVE INNOVATION; PHILIP KOOPMAN, PH.D., ASSOCIATE  
471 PROFESSOR, CARNEGIE MELLON UNIVERSITY; GARY SHAPIRO,  
472 PRESIDENT AND CEO, CONSUMER TECHNOLOGY ASSOCIATION; AND MARK  
473 RICCOBONO, PRESIDENT, NATIONAL FEDERATION OF THE BLIND

474

475 STATEMENT OF JOHN BOZZELLA

476

477           \*Mr. Bozzella. Ranking Member Schakowsky, Chair  
478 McMorris Rodgers, Ranking Member Pallone, members of the  
479 subcommittee, my name is John Bozzella. I am the president  
480 and CEO of Alliance for Automotive Innovation. Thank you for  
481 the invitation to share my perspective on the future of  
482 autonomous vehicles in the United States.

483           In my view, there is no safety or mobility solution with  
484 as much promise for the traveling public as autonomous  
485 vehicle technology. My written testimony outlines the urgent  
486 need for a Federal AV regulatory framework to get more AVs on  
487 the road and protect American leadership in autonomy.

488           I would like to use this time to describe my most recent  
489 experience in an AV just a few days ago in San Francisco.  
490 Here is my report from the front.

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491 I summoned the AV on my phone. It arrived quickly, and  
492 for 90 minutes shuttled me to several destinations I chose.  
493 The driving was careful, careful and competent. My AV  
494 seamlessly navigated double-parked cars, swerving cyclists,  
495 pedestrians crossing the street late at night, flashing red  
496 lights at intersections, and other vehicle traffic.

497 This wasn't a closed track with foam dummies and fake  
498 buildings. This wasn't a DARPA challenge or science  
499 experiment. This wasn't a tech show ride-and-drive with an  
500 engineer in the driver's seat, hands hovering over the  
501 steering wheel. This was full self-driving in real-world  
502 conditions. And the technology worked. It worked perfectly,  
503 in fact. It got me where I needed to be calmly,  
504 methodically, carefully, safely. That is what made my  
505 experience so powerful. Even for someone like me, who has  
506 seen virtually every innovation in this industry over the  
507 last 25 years.

508 And the good news, it will only get better. The  
509 software will learn from my ride and every ride in the  
510 future. Why? Because the more an AV operates, the more it  
511 learns and the better the technology gets.

512 So if the technology works now and will continue to

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513 improve exponentially over time, there is only one remaining  
514 question: Do we want this safety technology to exist and the  
515 vehicles to be built and to operate here in the U.S., instead  
516 of China? This is a question that can only be answered by  
517 Federal policymakers.

518         The truth is government has been bogged down on AVs,  
519 even with bipartisan support. For almost a decade there has  
520 been virtually no forward movement on Federal AV rules. In  
521 spite of this lag in the legal constraints, AV innovators  
522 have still managed to notch some growth.

523         But there is a ceiling to that growth. Barring a  
524 regulatory framework that delivers some certainty in the near  
525 future, I predict two things will happen: some AV companies  
526 will not succeed, and the technology and supply chains for  
527 this innovation will migrate to China and other countries  
528 establishing the right operating conditions. That is as  
529 plain as I can say it.

530         A similar dynamic happened with electric vehicle  
531 batteries. China locked up the global supply of critical  
532 minerals and raw materials for EV batteries because,  
533 candidly, it was impossible to process, mine, and build here.  
534 That is starting to change, but we are still playing catch-

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535 up. It would be a shame if history repeated itself with AVs  
536 because the technology works, and it continues to improve.

537 Are AVs perfect? No. Do occasional glitches or fender  
538 benders matter? Yes. But tens of thousands of traffic  
539 deaths on U.S. roads because of reckless, drunk, or  
540 distracted humans, that matters too. So does accessible  
541 transportation for seniors or individuals with disabilities.  
542 So does a chance to reduce traffic congestion and create new  
543 jobs and businesses.

544 I am sure it is rare that somebody from the private  
545 sector comes before you to ask, to plead for their businesses  
546 to be regulated from the Federal Government, but this is  
547 exactly what we are seeking. We are not asking for taxpayer  
548 money. We are not asking you to skirt or bypass a single  
549 safety gate. We are simply asking Congress to do something  
550 that only it can: pass a balanced Federal AV framework with  
551 safeguards, oversight, rules, and regulations to give this  
552 transformative technology a chance to succeed in the United  
553 States.

554 On this point we are grateful to the leadership of  
555 Chairman Latta and Congresswoman Dingell, as well as the  
556 leaders of the committee for their bipartisan work to keep

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557 innovation here and prevent a capital and knowledge exodus to  
558 countries like China.

559         Self-driving is hard. It is new. It is different. On  
560 behalf of the AV developers and the Americans who benefit  
561 from autonomy, let's work together to break America's AV  
562 logjam.

563         Thank you for your attention, and I am happy to answer  
564 your questions.

565         [The prepared statement of Mr. Bozzella follows:]

566

567 \*\*\*\*\*COMMITTEE INSERT\*\*\*\*\*

568

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569           \*Mr. Bilirakis. Thank you very much, sir. I appreciate  
570 it, very informative. I am glad you used that example. This  
571 is what we need to hear.

572           Okay, next is Mr. Koopman, who is the associate  
573 professor at Carnegie Mellon.

574           You are recognized, sir, for your five minutes of  
575 testimony.

576

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577 STATEMENT OF PHILIP KOOPMAN

578

579 \*Dr. Koopman. Good morning, and thank you for inviting  
580 me to testify. My name is Philip Koopman.

581 In my early career I served as a U.S. Navy submarine  
582 officer in the Cold War, and spent several years working in  
583 industry, including automotive supplier work. I then became  
584 a professor at Carnegie Mellon University, where I have been  
585 working on self-driving car safety for more than 25 years. I  
586 originated the UL 4600 industry safety standard on autonomous  
587 vehicle safety, and I have written two books on that topic.

588 I have worked with automotive industry partners such as  
589 General Motors, and helped the U.S. military improve the  
590 safety of their automated ground vehicles. I also have  
591 extensive experience with safety-critical computer  
592 applications in other industries such as rail transportation,  
593 chemical processing, industrial controls, aviation, and so  
594 on.

595 I started working on self-driving car safety at Carnegie  
596 Mellon University, right after they had driven 2,800 miles to  
597 San Diego, 98 percent hands off the steering wheel. That was  
598 back in 1995. The industry has since spent perhaps \$100

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599 billion worldwide on that last 2 percent, because it turns  
600 out to be really difficult, and we are still working on it.

601       There has been really impressive progress, especially on  
602 city streets. But after 25 years we still need a lot more  
603 work on reliability and safety so you can get a perfect ride,  
604 as Mr. Bozzella said. But the catch is you need millions of  
605 perfect rides, and that is a lot harder.

606       My written testimony provides more detail, so I will  
607 summarize five key themes this morning.

608       You might have heard talking points that humans are  
609 terrible drivers, and therefore computers will be better.  
610 The 98 percent human error rate for crash causation mentioned  
611 in the hearing memo has no basis in U.S. automotive safety  
612 data I am aware of. There is a 94 percent error trope, but  
613 that is a mischaracterization. Even the original NHTSA  
614 report says it is not really blaming the humans, and it has  
615 since been further discredited by the chair of NTSB. The  
616 reality is that both human drivers and computer drivers will  
617 make mistakes, and nobody knows how long it will take for  
618 computer drivers to be better than comparable human drivers  
619 at the 40,000 fatality number we have been talking about.

620       The mobility, economic, and safety benefits promised by



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621 manufacturers will only materialize if self-driving vehicles  
622 can be made safe and reliable at scale. The industry is not  
623 there yet, and it will easily be many years, if not decades,  
624 before the technology fully matures. Issuing overly-  
625 permissive regulations prematurely based on an assumption  
626 that it is already there is going to hurt the public  
627 interest.

628 Current regulations do not place any meaningful limits  
629 on the ability of companies to develop the technology for  
630 fully autonomous vehicles. Moreover, there are significant  
631 incentives for companies to cut corners on safety. This,  
632 combined with any required private arbitration and generally  
633 weak accountability, works against the interests of public  
634 safety. The chaos and harm unfolding on our public roads  
635 makes it clear that manufacturers pretty much have free rein  
636 already. Federal preemption of state abilities to regulate  
637 driving behaviors during a multi-year wait for Federal  
638 regulations can make this even worse.

639 The race that counts for automated vehicles is the race  
640 to create reliable and safe vehicle automation technology.  
641 To win, the Federal Government should require companies to  
642 adopt their own industry's engineering safety standards and

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643 best practices. There was a DoT framework in late 2020 that  
644 proposed exactly this that is a good way forward.

645         Additionally, manufacturers should be required to be  
646 transparent about crash data and incidents, as well as be  
647 held accountable for safety issues caused by their computer  
648 drivers.

649         The economic impact that matters for the next 5 or 10  
650 years or longer is partially automated systems, the so-called  
651 level 2, 2-plus, maybe level 3 features that require driver  
652 oversight. This technology is not established to improve  
653 safety. Driving automation technology does improve safety in  
654 the form of automated emergency braking, but that is not the  
655 steering down the road part of the technology. That is the  
656 active safety systems. Vehicles with poor driver monitoring  
657 and poorly conceived user interfaces are prone to causing  
658 injury and death to road users, and that is happening. So  
659 that part should be included in automated vehicle  
660 regulations, and it is included in one of the bills.

661         In closing, key points I would ask you to keep in mind  
662 are, one, companies have shown they will be as opaque if we  
663 let them, and that is causing them to lose the public's  
664 trust.

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665           Two, if the government does not find a way to  
666 incentivize companies to be more reliable and safe, foreign  
667 companies that do have a regulatory requirement to do that  
668 will likely win in the long term.

669           And three, the core issue is public trust. Fake it  
670 until you make it has run its course here. If we want to  
671 have an automated vehicle industry in the future, Congress  
672 needs to act to require transparency, accountability, and  
673 adoption of the industry's own safety standards.

674           Thank you for the opportunity to testify.

675

676

677           [The prepared statement of Dr. Koopman follows:]

678

679           \*\*\*\*\*COMMITTEE INSERT\*\*\*\*\*

680

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681           \*Mr. Bilirakis. Thank you, sir. Now I will recognize

682 Mr. Shapiro for his five minutes of testimony.

683           Welcome, sir.

684

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685 STATEMENT OF GARY SHAPIRO

686

687 \*Mr. Shapiro. Thank you, Mr. Chairman, Ranking Member,  
688 members of the subcommittee. I am so grateful for your focus  
689 today on safety and saving lives, reducing injuries, and  
690 empowering Americans. I appreciate the opportunity to  
691 testify.

692 The Consumer Technology Association represents over  
693 1,200 of America's leading and most innovative companies, 80  
694 percent of whom are small businesses. And we produce the  
695 CES, the world's most powerful and most fun tech event.

696 [Laughter.]

697 \*Mr. Shapiro. It is full of innovation. The last one  
698 in January, we had 300 exhibitors just on the mobility area  
699 alone, and we invite all of you to see us in 2024, where you  
700 see a lot of self-driving technology.

701 You know, I last testified before you on this issue with  
702 similar testimony -- deja vu -- in February 2020. And since  
703 then I have become increasingly concerned by the lack of  
704 progress at the Federal level. There is a patchwork of state  
705 laws, some 34 different jurisdictions. And this refusal that  
706 we have as a Federal Government to embrace the future alarms

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707 me. It is not who we are.

708 I have written 3 books and over 1,200 articles on  
709 innovation, and I am scared today to see the inaction that is  
710 affecting us.

711 As a nation we have been defined by our progress and our  
712 innovation. That is who we are. That is what we do. And  
713 Congress has an extremely rich history of being out there and  
714 welcoming innovation, and embracing it, and not listening to  
715 other parochial groups that say, "Slow it down, stop it, it  
716 is going to threaten us, it is going to hurt us.'" And there  
717 is very few examples of that, which has allowed us to be a  
718 leader in so many different areas of technology and medicine  
719 and elsewhere, because we favor the new, we favor the  
720 innovative.

721 And the sad thing for us is our adversaries and allies  
722 are moving forward without us. And just since the last  
723 hearing we had on this in 2020, China, Europe, Japan have all  
724 moved forward -- and South Korea even has a target: half of  
725 its cars be self-driving by 2035.

726 We should be the leader. Instead, we are falling  
727 behind. And this is an issue that defines our future. It is  
728 an economic issue, a public safety issue, an accessibility

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729 issue, and a national defense issue. As an economic issue,  
730 it could create 300 billion to 400 billion in revenue by  
731 2035.

732 And of course, as many of you stated, we have to win in  
733 this race against China here, because I value our democracy,  
734 as I know all of you do, so much that being forced in a way  
735 to raise kids the way China does, and have that type of  
736 social structure is something we all must avoid, and the  
737 economy is part of the battle.

738 It is a public health and safety issue. Delay, every  
739 year of delay is costing thousands of American lives. You  
740 have heard about the loss of over 40,000 a year. Ninety-four  
741 percent of the crashes are because of human error. There is  
742 no other example it could be, other than the car breaking  
743 down, which is very rare, or lightning, or big hole in the  
744 road. Either that, or it is human error. And SDVs are never  
745 distracted. They are never tired. They don't get drunk and  
746 they don't fall asleep. And they are designed not to speed,  
747 which is a contributing factor in many deaths and injuries.

748 But we can't wait for them to be perfect. The perfect  
749 should not be the enemy of the amazing. Even if we are only  
750 saving 10 percent of lives in a couple of years -- or safety,

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751 that is an astounding savings of lives and injuries and,  
752 actually, economic savings as well, which will translate for  
753 consumers in lower interest.

754 And of course, it is an accessibility issue, as you have  
755 heard. It could create over 4 million jobs and support an  
756 aging population, as 1 in 6 Americans are like me, older than  
757 65.

758 And it is a national defense issue. As our adversaries  
759 develop self-driving, we will be unnecessarily risking young  
760 American lives who have to fight and drive abroad.

761 AVs are driving today on our roads. There is a lot of  
762 success stories. Thanks to innovation by American companies,  
763 Waymo is increasing passenger rides tenfold by next summer.  
764 Cruise has driverless taxi services in several cities.  
765 Aurora has 30 autonomous trucks on the roads in Texas. And  
766 80 self-driving companies are testing across 30 states.

767 Consumers want these products. All the research shows  
768 that about two-thirds of Americans are interested in  
769 replacing their cars with self-driving vehicles.

770 And not every company will succeed. We have seen  
771 failures. Ford, Volkswagen's AG shut down. One of the  
772 reasons they cited? Regulatory uncertainty. Local Motors



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773 bankruptcy. Uber and Lyft sold their companies. Not every  
774 company will be successful, but we need legislative and  
775 regulatory action to move our nation forward, to stay  
776 competitive, to save lives, and to reduce our -- and to allow  
777 investment, which is a very long timeframe in self-driving.

778       So what do we recommend? We need some goals. A  
779 national goal, time bound on deaths and injuries reduced  
780 would be really helpful. NHTSA has to update outdated safety  
781 standards. We think there should be a national policy so  
782 that any bill ensures that the Federal Government remains  
783 solely responsible for regulating vehicle safety and  
784 performance. And we must expand the exemption authority of  
785 NHTSA. It is so tiny right now that it doesn't allow  
786 commercial viability, and has massive amount of billions of  
787 dollars investment that American companies are ready to have.  
788 Also, the more exemptions, the more data you collect, the  
789 more oversight ability.

790       Thank you for this opportunity. I look forward to  
791 answering questions.

792       [The prepared statement of Mr. Shapiro follows:]

793

794 \*\*\*\*\*COMMITTEE INSERT\*\*\*\*\*

795

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796           \*Mr. Bilirakis. I appreciate it, sir. Thank you.

797           And last, but certainly not least, Mr. Riccobono, you

798 are recognized, sir, for your five minutes of testimony.

799

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800 STATEMENT OF MARK RICCOBONO

801

802 \*Mr. Riccobono. Good morning, Mr. Chairman, and Ranking  
803 Member Schakowsky, and to the chair and ranking member of the  
804 committee and to all members. It is a true pleasure and  
805 honor to be here.

806 My name is Mark Riccobono. I serve as president of the  
807 National Federation of the Blind, America's transformative  
808 membership organization of blind people, and I want to thank  
809 the committee for including the voice, experience, and  
810 perspectives of blind people in the consideration of  
811 autonomous vehicle technology and the necessary legislation  
812 and regulatory schemes that must be adopted in order to make  
813 sure we have a responsible and meaningful implementation of  
814 this technology.

815 In addition to representing tens of thousands of blind  
816 Americans, I have ridden in, I think now, autonomous vehicles  
817 from half a dozen companies over the last 10 years. And I  
818 have been a strong advocate for advancing the accessibility  
819 conversation with this industry, beginning with my  
820 representation of the National Federation of the Blind to be  
821 the first -- well, first and only blind person to drive a car

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822 using non-visual access technologies at the Daytona  
823 International Speedway back in 2011.

824 More importantly, my wife and I are both blind, and we  
825 have two blind daughters. And so I echo the chairman's  
826 sentiment that on a daily basis we experience the struggles  
827 of equal access to transportation.

828 I also want to echo the chairman's comments in beginning  
829 by celebrating that this is the 33rd anniversary of the  
830 Americans with Disabilities Act, which was, as noted, a  
831 bipartisan effort to protect the rights of people with  
832 disabilities and to elevate people with disabilities, enable  
833 to live in and contribute to our society.

834 This hearing today is an important moment in fulfilling  
835 the goals of the Americans with Disabilities Act. The  
836 opportunity for our nation to innovate with this technology,  
837 but also to make sure that all people with disabilities have  
838 equal access to this important form of transportation is an  
839 opportunity that really cannot be overstated. Congress has  
840 not just the opportunity, but the responsibility to lead on  
841 these issues, and really bring the lived experience and  
842 wisdom of people with disabilities to this effort.

843 And in that respect, there are two key principles. The

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844 first, of course, is nothing without us. People with  
845 disabilities need to be included from the beginning. And I  
846 celebrate the members of the committee who have made that a  
847 priority in this discussion. But secondly, and maybe more  
848 importantly, is that we know from our experience that it is  
849 not just including with -- people with disabilities, that  
850 actually our perspective makes innovations better. The  
851 access and the perspectives that we bring actually make the  
852 development of technology better for everybody.

853         And I will add a side principle, and that is that,  
854 especially for blind people, taking humans out of the mix  
855 will eliminate the discrimination that many, many blind  
856 people feel, especially with rideshare drivers that deny them  
857 equal access.

858         Related to this bill, my written testimony has a number  
859 of important points that I won't take the moment to  
860 emphasize, but I will say that taking discrimination out of  
861 licensing schemes, including people with disabilities at the  
862 table from the beginning, and making sure that the United  
863 States Department of Transportation finds ways to include  
864 people with disabilities is important.

865         I will give one side note, which is although our members

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866 are not primarily people who use wheelchairs, there are a  
867 number of important considerations and concerns that the  
868 committee should keep in mind and that we would elevate.

869 And finally, I would call on the committee to recognize  
870 that the United States Access Board can play an important  
871 role, and is an asset to the Federal Government in these  
872 issues.

873 I appreciate the opportunity to speak with you today,  
874 and I look forward to answering your questions.

875 [The prepared statement of Mr. Riccobono follows:]

876

877 \*\*\*\*\*COMMITTEE INSERT\*\*\*\*\*

878

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879           \*Mr. Bilirakis. Thank you very much, sir. I appreciate  
880 it.

881           I will go ahead and recognize myself for questioning for  
882 five minutes. I want to ask Mr. Riccobono.

883           I am so pleased, again, that you are here today, and  
884 members of the National Federation of the Blind. Again, so  
885 many of our friends who advocate for people living with  
886 disabilities are here in the audience. I really appreciate  
887 you making the effort to be here today. It makes a big  
888 difference.

889           I also want to thank you for your support of the  
890 amendment offered last Congress on the infrastructure bill  
891 regarding protections from discrimination for disability --  
892 for the disability community. I am still disappointed that  
893 the majority at the time didn't allow it to be voted on as  
894 part of that package that was enacted without our input.

895           Can you briefly share with us your experience with  
896 self-driving vehicles, and maybe elaborate on how much of an  
897 impact this will have for people living with disabilities?

898           And elaborate again on what opportunities this could  
899 bring if this technology is developed specifically with this  
900 community in mind. Is this a major priority for the National

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901 Federation of the Blind?

902 \*Mr. Riccobono. Thank you, Mr. Chairman. Yes, great  
903 question.

904 Well, obviously, especially for blind people, but many  
905 people with disabilities, blind people are excluded from the  
906 driving class. You know, what I like to say is that 100  
907 percent of accidents are caused by sighted drivers.

908 [Laughter.]

909 \*Mr. Riccobono. I think I said that -- it still gets a  
910 laugh. I think I said it last time I testified.

911 But the reality is that transportation is a significant  
912 barrier, easy transportation, access to affordable  
913 transportation.

914 But also, as I alluded to, especially today in the  
915 rideshare environment -- but it has always been true with  
916 taxi drivers, as well -- there is a level of discrimination  
917 against people with disabilities, especially people -- blind  
918 people who use service animals. So there is a tremendous  
919 opportunity here.

920 But as I have noted, I have had the opportunity to ride  
921 in many autonomous vehicles, being involved in these  
922 discussions over the last decade. And I had a similar



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923 experience as already has been shared related to Cruise in  
924 San Francisco.

925         And I will say, you know, I was in a vehicle that was  
926 not 100 percent successful. The vehicle actually had an  
927 issue at one point, and I was really kind of excited not to  
928 have a perfect experience because it illuminated how much  
929 thought has been put into both the safety and help teams that  
930 are behind this technology. As a blind person not being able  
931 to know, you know, look out the windshield and see what is  
932 happening outside the car in that moment -- and I will just  
933 say we were at a red light, and when the light turned green  
934 the car failed to move. But the help team engaged very  
935 quickly, was very communicative about what was going on, and  
936 I was impressed by the user experience that I will say is  
937 much different than cars that I have been in with real, human  
938 drivers.

939         So for people with disabilities, but, really, I think  
940 all people, there is a tremendous opportunity here to not  
941 only innovate by incorporating new ideas about accessibility,  
942 but to increase the safety and eliminate discrimination that  
943 happens in rideshare, where we have humans that are  
944 continuing to discriminate against people with disabilities

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945 or people of color.

946 I think the technology and the thoughtful approach that  
947 the industry but also Congress is taking in these  
948 conversations give me a lot of hope for the safety and  
949 implementation of this technology.

950 \*Mr. Bilirakis. Well, thank you very much. And I know  
951 in my area, in the Tampa Bay area, most areas do not have a  
952 strong public transportation system. We are not fortunate  
953 enough to have a metro, what have you. So I think it is very  
954 appropriate that we have the discussion today and the work  
955 you are doing, sir, to ensure people living with disabilities  
956 is widely supported, including by the Consortium for  
957 Constituents with Disabilities, who sent a letter to this  
958 committee regarding the need to move AV legislation as soon  
959 as possible.

960 I would like to submit that for the record.

961 Without objection, so ordered.

962 [The information follows:]

963

964 \*\*\*\*\*COMMITTEE INSERT\*\*\*\*\*

965

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966           \*Mr. Bilirakis. I know I don't have a lot of time.  
967 Well, why don't I go ahead and yield back and recognize the  
968 ranking member? I will submit the rest of the questions for  
969 the record.

970           [The information follows:]

971

972           \*\*\*\*\*COMMITTEE INSERT\*\*\*\*\*

973

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974 \*Mr. Bilirakis. I appreciate it.

975 \*Ms. Schakowsky. Thank you so much, Mr. Chairman.

976 Dr. Koopman, you talked about -- you used the word  
977 "trust," the assurance that Americans have when we talk  
978 about autonomous vehicles. Trust becomes a very important  
979 issue.

980 I want to thank the advocates for highway, auto --  
981 highway and auto safety, Cathy Chase, who is here in the  
982 audience, who has done a lot of work talking about what we  
983 need to do to make our highways safer.

984 But I want to ask you, Doctor, at this point do you feel  
985 that we could be saying that autonomous vehicles are, in  
986 fact, safer than human drivers?

987 \*Dr. Koopman. At this point -- thank you for the  
988 question, Ms. Schakowsky.

989 \*Mr. Bilirakis. Press the button.

990 \*Dr. Koopman. It is on, yes.

991 Where we are is that it is too soon to tell how it will  
992 turn out for fatalities. There is data saying it is a little  
993 bit safer. Maybe it is not as safe for crashes, and we are  
994 going to see how that plays out, but it is way too soon to  
995 tell for fatalities.

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996           And the issue is that, while human drivers absolutely  
997 make mistakes, computers make mistakes, too. And the 94  
998 percent number you recently heard in the report that comes  
999 from -- it is a NHTSA report -- it says 94 percent involved  
1000 some element of a human. But sometimes the human didn't  
1001 clean up a mess. The very next sentence in that report says  
1002 this does not mean the driver was to blame. So it is  
1003 important to realize the jury is still out. We have a long  
1004 way to go to find out how this turns out for fatalities.

1005           \*Ms. Schakowsky. Let me also ask you this. You  
1006 mentioned in your testimony a number of ways that AVs should  
1007 be subjected to safety regulations. But let me ask you this.  
1008 What are the kinds of things that Congress should be thinking  
1009 about as a start, and the role that we can play right now in  
1010 assuring the kind of trust and safety for autonomous  
1011 vehicles?

1012           \*Dr. Koopman. Well, I think that the main principles  
1013 have to be transparency, accountability, and independent  
1014 oversight.

1015           But for something very actionable, NHTSA already has an  
1016 advanced notice of proposed rulemaking for -- from December  
1017 2020 that has a pretty good starting point for a framework,

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1018 including requiring conforming to engineering safety  
1019 standards, telling engineers how to get the design right to  
1020 address things.

1021           And so just moving that ANPRM forward would provide a  
1022 really robust platform to get consensus from both sides on  
1023 how to provide. So people say we need a regulatory  
1024 framework. We have one. It has been sitting there since  
1025 December 2020. We need to move forward.

1026           \*Ms. Schakowsky. Thank you. I also just wanted you to  
1027 comment on whether we should consider what is happening --  
1028 what could happen to the workforce as we move forward with  
1029 autonomous vehicles, and if we should be working to do some  
1030 legislation in that regard.

1031           \*Dr. Koopman. Absolutely. Any new technology will  
1032 bring with it workforce disruptions. There are no  
1033 exceptions. That just always happens. So I think it is  
1034 really important to consider the workforce impact. There  
1035 will be jobs, no doubt, eventually there will be jobs lost.  
1036 But there is going to be opportunities for a lot of new jobs  
1037 and, in many cases, more highly skilled, better jobs that  
1038 become available.

1039           \*Ms. Schakowsky. Thank you for that.

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1040 I wanted to also add to -- something to the record.  
1041 Several transportation labor organizations have written  
1042 letters and -- that are calling on Congress to account for  
1043 the potential loss of jobs. And I seek the -- and I ask for  
1044 unanimous consent to put three of them in the record.

1045 \*Mr. Bilirakis. Without objection, so ordered.

1046 [The information follows:]

1047

1048 \*\*\*\*\*COMMITTEE INSERT\*\*\*\*\*

1049

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1050           \*Ms. Schakowsky. Okay. Really, that is the gist of my  
1051 questions. But what I would like -- there is a lot of sense  
1052 of urgency in this room. How long -- do you have any  
1053 projection -- do you see it will take us to get to the point  
1054 that we can really move significantly forward?

1055           \*Dr. Koopman. I think there is two aspects to that. I  
1056 am talking about 5 or 10 or 25 years before we see the  
1057 complete transition. That doesn't mean we have to wait that  
1058 long to see benefit. We can see benefit, essentially, right  
1059 away if we are careful to deploy the technology in niches  
1060 where we can ensure that the public harm is not increased,  
1061 and that there is a public benefit.

1062           So it is absolutely fine to deploy the technology in a  
1063 sensible, incremental way, making sure we do no harm as we do  
1064 so. That can still proceed quite quickly. But it is going  
1065 to need some regulatory frameworks to ensure that the  
1066 industry is conforming to their very own industry engineering  
1067 safety standards as they do it.

1068           \*Ms. Schakowsky. Thank you. I am out of time.

1069 "Incremental" may be the word. Thank you.

1070           I yield back.

1071           \*Mr. Bilirakis. The gentlelady yields back. I will now



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1072 recognize the chairman of the full committee, Mrs. Rodgers,  
1073 for her five minutes of questioning.

1074 \*The Chair. Thank you, Mr. Chairman. I think I would  
1075 rather say the word is "nothing as powerful as an idea whose  
1076 time has come," and this is an idea whose time has come.  
1077 And I am so excited about what this transformational  
1078 technology is going to mean on so many different fronts.

1079 But I wanted to start with Mr. Riccobono and, just  
1080 again, thank you for your powerful testimony, and it is great  
1081 to have so many in the audience today advocating for those  
1082 with disabilities. I wanted you to speak about the work that  
1083 you are doing with these associations and members on the  
1084 accessibility needs for people living with disabilities, and  
1085 how limiting will it be for your members if this important  
1086 technology only comes to fruition in certain parts of the  
1087 country or just certain populations. And if it is not  
1088 available, is there a workforce to address your mobility  
1089 needs?

1090 \*Mr. Riccobono. Yes. So thank you for the question.

1091 One thing that has been, I think, impressive in the  
1092 trajectory of this technology is the inclusion of people with  
1093 disabilities in the discussion of how this technology is

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1094 developed and what the user interfaces will be. So it is not  
1095 just putting a person with a disability in a vehicle and  
1096 pressing go, that the -- you know, making sure that people  
1097 with disabilities, from getting connected with a vehicle at  
1098 the curb to having independent control within the vehicle to  
1099 know what is happening to being able to get there safely,  
1100 that we have been having discussions all throughout the  
1101 process with the various companies and the industry on this.

1102         You know, what is really important, especially for a  
1103 person like me, is that ultimate, fully autonomous driving,  
1104 right? Because the pathway we are on is helpful, but, you  
1105 know, if there is still a requirement that you have to be  
1106 able to see out the window to take control of the vehicle at  
1107 some point, that is not ultimately going to benefit someone  
1108 like me.

1109         And the other thing I would say is that I agree that,  
1110 you know, people who live in many parts of this nation where  
1111 there is limited or no public transportation system, the  
1112 ability to independently get a car to come to you and take  
1113 you to your doctor's appointment or some other important  
1114 aspect of work, or even fun, for that matter, will be life  
1115 changing.

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1116           And I don't use the term "life changing" very often,  
1117 but the transportation barrier --

1118           \*The Chair. Thank you, yes.

1119           \*Mr. Riccobono. -- that so many Americans face in  
1120 getting --

1121           \*The Chair. Thank you.

1122           \*Mr. Riccobono. -- access to reliable transportation,  
1123 it is transformative.

1124           \*The Chair. Yes, thank you. I have too many other  
1125 questions, but I just appreciate that perspective so much.

1126           You know, I have deep concerns about the Chinese  
1127 Communist Party embedding themselves in American  
1128 infrastructure. And I do believe that there is an urgency.  
1129 We are spending billions of dollars right now to rip and  
1130 replace Huawei equipment from our telecommunications system,  
1131 and inaction on the AV front is letting history repeat  
1132 itself. And, you know, we know there is at least seven  
1133 Chinese companies testing on our roads today. So to the  
1134 question, I want to start with Mr. Shapiro.

1135           How long -- you heard -- how long should it take?

1136           What components of the discussion drafts before us today  
1137 will spur the innovation, and what -- and which are a recipe

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1138 for failure?

1139           And then I want to give Mr. Bozzella a chance to also  
1140 answer that --

1141           \*Mr. Shapiro. Is this in the context of China or  
1142 overall?

1143           \*The Chair. Well, I will just say for -- I would like  
1144 to -- let's keep it on the context of the bills before us,  
1145 and AVs, and just -- what is going to spur the innovation,  
1146 and what parts of these bills do you think are a recipe for  
1147 failure?

1148           \*Mr. Shapiro. I think Congressman Latta has presented a  
1149 great framework that will allow rapid development of ATV  
1150 [sic], as well. It will give the encouragement that the  
1151 companies need.

1152           There are, like, 8-year, 10-year planning cycles. You  
1153 have to build a factory, invest billions of dollars. You  
1154 have to know where your government is going to be. And right  
1155 now, for example, the limitation on exclusions is so low that  
1156 there is no commercial way you could do that and make money  
1157 -- 2,500 vehicles just doesn't cut it for a car company,  
1158 considering everything: hiring the workers, training the  
1159 workers, doing all the things that are necessary. And I

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1160 think Congressman Latta has done that beautifully, as have  
1161 other parts of the bill.

1162 I would like to see a timetable in there, personally, of  
1163 when things -- when we will be at certain guideposts. I  
1164 think it is always good, especially in the business world, to  
1165 have measurements so you can measure your success.

1166 \*The Chair. Thank you. I am going to take back my  
1167 time --

1168 \*Mr. Shapiro. Okay.

1169 \*The Chair. -- and yield the remainder to Mr. Bozzella.  
1170 Thank you.

1171 \*Mr. Bozzella. Thank you, Chair McMorris Rodgers. So  
1172 very quickly, three things that the bills do that are really  
1173 important.

1174 One, they ensure that NHTSA reimagines and modernizes  
1175 Federal motor vehicle safety standards for this future. That  
1176 is critical to innovation and development here in the United  
1177 States.

1178 Secondly, we need a bridge because it is going to take  
1179 NHTSA some time to do that. We need a bridge that ensures  
1180 safety so NHTSA would expand under this bill exemptions,  
1181 ensuring vehicles that don't have specific traditional

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1182 technologies like steering wheels and pedals are as safe or  
1183 safer than the vehicles they would replace. So that is the  
1184 second piece.

1185 The third piece that is really important is let's make  
1186 sure that we adhere to and respect the traditional roles of  
1187 the Federal Government with regard to design, construction,  
1188 and operation of vehicles, and the traditional roles of  
1189 states with regard to licensing and traffic enforcement.

1190 So --

1191 \*The Chair. Thank you.

1192 \*Mr. Bozzella. -- three important things.

1193 \*The Chair. Thank you. Yes, my time is expired. I  
1194 will -- I do have further follow-up questions that I will  
1195 submit in writing.

1196 [The information follows:]

1197

1198 \*\*\*\*\*COMMITTEE INSERT\*\*\*\*\*

1199

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1200           \*The Chair. I yield back, Mr. Chairman. Thank you.

1201           \*Mr. Bilirakis. The gentlelady yields back, and I will  
1202 recognize the ranking member, Mr. Pallone, for his five  
1203 minutes of questioning.

1204           \*Mr. Pallone. Thank you, Mr. Chairman. I want to ask  
1205 some questions first about preemption of state and local  
1206 laws, and then about forced arbitration.

1207           So if we spend too much time on the first one, I may cut  
1208 some of you off because I want to get to the second one.

1209           For people with disabilities, AVs are a transformational  
1210 technology that holds the promise of greatly improving  
1211 independence and mobility. But we can't overcome barriers to  
1212 independence by preempting state and local accessibility laws  
1213 and weakening the enforcement of the ADA.

1214           The Consortium for Constituents with Disabilities, which  
1215 includes organizations like the Disability Rights Education  
1216 and Defense Fund, the Paralyzed Veterans of America, and the  
1217 American Foundation for the Blind has submitted a letter for  
1218 the record expressing concerns that preemption language --  
1219 and I quote -- "regarding the design, construction, or  
1220 performance of AVs could harm efforts to improve access and  
1221 benefits for disabled and other historically underserved

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1222 travelers.''

1223           And I was going to ask, Mr. Chairman, unanimous consent  
1224 to enter this letter into the record.

1225           \*Mr. Bilirakis. Without objection, so ordered.

1226           [The information follows:]

1227

1228           \*\*\*\*\*COMMITTEE INSERT\*\*\*\*\*

1229



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1230           \*Mr. Pallone. Thank you. So let me ask some questions.

1231           Mr. Riccobono, would you concern -- would you be  
1232 concerned about Federal legislation preempting state and  
1233 local laws adopting accessibility requirements for the  
1234 benefit of people with disabilities?

1235           \*Mr. Riccobono. Well -- and thank you for the question  
1236 -- what I would say to that is that, you know, the  
1237 accessibility requirements need to be standard across the  
1238 country. This is a problem we see sometimes in other areas  
1239 where there is variation.

1240           So the Federal Government, I think, plays an important  
1241 role, and that is where I referenced the United States Access  
1242 Board is a tremendous resource for NHTSA and others on this  
1243 issue to set a reasonable and powerful standard to make sure  
1244 whatever happens in this area, that it is fully inclusive for  
1245 people with disabilities.

1246           \*Mr. Pallone. Thank you.

1247           Mr. Shapiro, do your members support preempting state  
1248 and local laws adopting accessibility requirements for the  
1249 benefit of people with disabilities?

1250           \*Mr. Shapiro. For -- in the sense of building cars?  
1251 Absolutely, because to build a car on a national basis, as

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1252 opposed to do it for local requirements, the economies of  
1253 scale are such that we will be charging consumers more  
1254 because -- if there are local requirements.

1255           And it has been how cars have developed in our  
1256 regulatory structure is that the safety features of the car  
1257 are regulated nationally. In terms of driver requirements,  
1258 things like that, that is a state -- and that is what this  
1259 legislation envisions.

1260           \*Mr. Pallone. And then Mr. Bozzella, same question. Do  
1261 your members support preempting state and local laws,  
1262 adopting accessibility requirements for the benefit of people  
1263 with disabilities?

1264           \*Mr. Bozzella. I think accessibility is critically  
1265 important, and it is one of the opportunities we have in  
1266 terms of the benefits this technology provides. However, we  
1267 need to build one fleet for the nation, and so those  
1268 accessibility requirements should be established in a way  
1269 that allows us to make sure that they are part of every  
1270 vehicle, one fleet of vehicles for the nation.

1271           \*Mr. Pallone. Thank you. I am going to then -- I am  
1272 going to go to Mr. Koopman instead on the forced arbitration.

1273           This same letter from the Consortium for Constituents

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1274 with Disabilities encourages us to prohibit forced  
1275 arbitration clauses in AV legislation to ensure AV providers  
1276 can be -- and it quotes -- "held accountable for injuries and  
1277 property damage.''

1278 So, Mr. Koopman, what would be the effect of forced  
1279 arbitration agreements imposed on AV users on mobility and  
1280 safety for the disabled community?

1281 \*Dr. Koopman. I think that a forced arbitration  
1282 provision would make it much more difficult for the disabled  
1283 to assert their rights and hold companies accountable.

1284 Mr. Riccobono mentioned the problems they have with ride  
1285 hailing networks. I remember a time when we were promised  
1286 that ride hailing was going to solve all the mobility needs,  
1287 and deliver food to food deserts, and help out folks who had  
1288 mobility problems. I remember that time, and it didn't work  
1289 out. And my understanding is that forced arbitration has  
1290 played a large role in that outcome.

1291 \*Mr. Pallone. And then lastly, are there unique safety  
1292 and operational considerations with respect to AVs and people  
1293 with disabilities that we should take into account as we  
1294 consider the AV legislation?

1295 \*Dr. Koopman. Yes, there are. And the engineering

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1296 safety standards I mentioned actually speak directly to  
1297 those.

1298 For example, Mr. Riccobono, again, was talking about how  
1299 the companies are addressing this, and that is great that  
1300 some companies are addressing it, things that -- if you don't  
1301 have sight, that signs inside the cars aren't going to work;  
1302 if you are hearing impaired, audio cues aren't going to work.  
1303 And so those things definitely have to be taken into account  
1304 in designing these vehicles.

1305 \*Mr. Pallone. All right, thanks so much. I really  
1306 think that the deployment of AVs doesn't have to come at the  
1307 expense of state and local accessibility laws and the rights  
1308 of the disabled to seek justice for ADA violations.

1309 Thank you, Mr. Chairman. I yield back.

1310 \*Mr. Bilirakis. Thank you. The ranking member yields  
1311 back, and I will recognize Dr. Bucshon for his five minutes  
1312 of questioning.

1313 \*Mr. Bucshon. Thank you, Mr. Chairman, for calling  
1314 today's hearing. This is an important step in establishing a  
1315 clear Federal regulatory framework for autonomous vehicles in  
1316 the United States.

1317 While we are years from broad deployment, I hesitate to

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1318 call this an emerging technology because it is already being  
1319 utilized across our country, with more than 44 million miles  
1320 traveled here. While the United States has been a leader in  
1321 developing various autonomous driving technologies that can  
1322 help make our roads safer, our competitors abroad in Europe  
1323 and China are closing the gap with us, as developers in the  
1324 U.S. are stuck in regulatory purgatory.

1325 That didn't sound quite right, but -- "regulatory  
1326 purgatory."

1327 [Laughter.]

1328 \*Mr. Bucshon. One technology that I believe is critical  
1329 in the future of this industry is LiDAR or, light detection  
1330 and ranging that uses pulsed lasers to map the surrounding  
1331 environment. In 2018 the United States had over 85 percent  
1332 of the LiDAR market share worldwide. Today we have less than  
1333 50 percent.

1334 China has identified this as a key enabling technology  
1335 in its Belt and Road strategy, and is increasing their  
1336 production at a feverish pace. They know this technology  
1337 will not only be pivotal in technologies like AVs, but also  
1338 in public transportation, industrial automation, defense, and  
1339 more. This seems eerily similar to 20 years ago, when the

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1340 CCP recognized how critical semiconductors would be, and took  
1341 steps to dominate the market. Today we are still struggling  
1342 with that aftermath. We cannot let this happen again with  
1343 LiDAR or any AV technologies.

1344 So Mr. Shapiro, do you think that enacting legislation  
1345 like the SELF DRIVE Act will help boost U.S. production of  
1346 critical technologies like LiDAR, and prevent such  
1347 bottlenecks from happening again?

1348 \*Mr. Shapiro. I think that the legislation going  
1349 forward as proposed will be a great big step in ensuring that  
1350 does not happen, because the alternative is there is not  
1351 going to be a lot of investment in the U.S. in self-driving.

1352 In terms of the specific focus on specific ingredient  
1353 technologies like LiDAR technology, you would have to look at  
1354 the patent portfolio ownership and see if patents are being  
1355 violated. I think there is different steps that government  
1356 can take if it is seeking to protect a critical part of a  
1357 supply chain like LiDAR, or as has been done with chips. But  
1358 that is a policy decision.

1359 I think the important thing is that we go forward and  
1360 start letting companies know that this is going to be mass-  
1361 produced technology so they can invest in the United States

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1362 and manufacture in the United States.

1363 \*Mr. Bucshon. Yes, I mean, I think that is the critical  
1364 thing: investment in the United States. And we certainly  
1365 don't want to inhibit that.

1366 Mr. Bozzella, do you think that U.S. manufacturers would  
1367 be able to meet the production caps proposed in  
1368 Representative Latta's discussion draft before the committee  
1369 today?

1370 \*Mr. Bozzella. Yes, I do. But I am more concerned that  
1371 if we don't expand those exemptions and provide a bridge to  
1372 test and deploy at scale, that there are going to be fewer  
1373 companies doing fewer -- less innovation here in the United  
1374 States.

1375 \*Mr. Bucshon. And do you -- are there any other  
1376 regulatory hurdles that this legislation should address to  
1377 ensure that they can?

1378 \*Mr. Bozzella. Yes. We should ensure that the National  
1379 Highway Traffic Safety Administration does the hard but  
1380 necessary and critical work of modernizing Federal motor  
1381 vehicle safety standards.

1382 \*Mr. Bucshon. Great. I mean, my hope would be that  
1383 this increased production would lead to more AV deployments

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1384 in rural areas like Indiana's 8th district.

1385 [Laughter.]

1386 \*Mr. Bucshon. As an example.

1387 [Laughter.]

1388 \*Mr. Bucshon. It seems like I am getting a lot of  
1389 laughs today for some reason.

1390 [Laughter.]

1391 \*Mr. Bucshon. Where individuals with impaired vision or  
1392 other disabilities, the elderly, and every Hoosier would be  
1393 able to benefit from AVs. I mean, rural America has been  
1394 addressed, right, and it is critical. It is a bigger  
1395 challenge, probably, than urban America is.

1396 So, Mr. Riccobono, would you agree that implementing the  
1397 national regulatory framework like the SELF DRIVE Act would  
1398 accomplish this goal of increasing access in rural America to  
1399 individuals who have impaired vision or other disabilities?

1400 \*Mr. Riccobono. Yes, 100 percent, especially with  
1401 accessibility and the inclusion of the wisdom of people with  
1402 disabilities being central to it. So I agree.

1403 \*Mr. Bucshon. Thank you. And I also, just in closing,  
1404 I want to make sure that safety is a critical issue. And we  
1405 obviously do not want to over overlook that. And that is



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1406 something I think we can find solutions for.

1407       Also, you know, the displacement of workers,  
1408 potentially, is another thing we can find solutions to. And  
1409 I think, ultimately, at the end of the day, it will create  
1410 more jobs out there. But it will increase access to the  
1411 roadways for the people that we have discussed -- and improve  
1412 safety. Thank you.

1413       I yield back.

1414       \*Mr. Bilirakis. The gentleman yields back. Now I  
1415 recognize Representative Clarke from the great State of New  
1416 York for your five minutes of questioning.

1417       \*Ms. Clarke. Thank you very much, Mr. Chairman, and let  
1418 me thank our Ranking Member Schakowsky for holding today's  
1419 hearing. And I want to thank our witnesses for being here to  
1420 testify on these bills today.

1421       Before I get to my questions I would like to take a  
1422 moment to recognize the irony in this subcommittee holding a  
1423 hearing on the need for regulatory certainty for autonomous  
1424 vehicles, almost all of which will be electric. And then the  
1425 fact that tomorrow our full committee plans to mark up  
1426 multiple bills that will reverse clear Federal rules on  
1427 vehicle emissions in an attempt to thwart investments the

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1428 auto industry and Congress have made in electrification.

1429 As the young people say, "Just saying."

1430 [Laughter.]

1431 \*Ms. Clarke. Last month, unfortunately, an automated  
1432 vehicle driving system activated -- excuse me, a vehicle with  
1433 an automated driving system activated ran into the sidewalk  
1434 in my district, killing one of my constituents and seriously  
1435 injuring another. And while I recognize the clear  
1436 differences between highly automated, fully autonomous  
1437 vehicles and the advanced driver assistance systems present  
1438 in this incident, it would be unfortunate if this committee  
1439 did not recognize the present dangers of automated technology  
1440 being marketed and used in vehicles today. So we cannot look  
1441 so far into the future that we fail to protect our  
1442 constituents today. Just saying.

1443 I am also, like, excuse me, Ranking Member Pallone,  
1444 concerned that broad preemption of state and local laws could  
1445 limit the ability of cities like New York to enforce their  
1446 local traffic laws, including the AVs, are allowed to operate  
1447 [sic].

1448 Mr. Bozzella, you state in your testimony that states  
1449 should continue to have jurisdiction over operation of

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1450 vehicles on public roads, including enforcement of traffic  
1451 laws. Could you elaborate on that position, and how does  
1452 broad preemption of state and local laws impact and  
1453 potentially limit safety?

1454 \*Mr. Bozzella. Yes. Well, thank you very much for the  
1455 question. I very much appreciate it.

1456 The key here is, to my mind, is making sure that we  
1457 recognize the traditional roles that state and local  
1458 governments have. And I have a background in local  
1459 government, having worked for the mayor of the City of New  
1460 York back in my day. So I appreciate where you come from.  
1461 It is really important that we do that. But it is also  
1462 important that we recognize the Federal role with regard to  
1463 design, construction, and performance of vehicles. And so  
1464 that is what we are looking for.

1465 AVs are going to follow local traffic laws. AVs  
1466 currently follow local traffic laws where they are already  
1467 operating, and that will be true in the future, as well.

1468 \*Ms. Clarke. Very well.

1469 Dr. Koopman, would broad preemption prevent cities from  
1470 prohibiting AVs in certain areas like school zones, or  
1471 traffic laws requiring full stops at stop signs, or safe lane

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1472 changes?

1473           \*Dr. Koopman. I think Federal preemption could be a  
1474 problem.

1475           In New York City, for example, right now, is the only  
1476 place in the country that requires companies doing testing to  
1477 follow the industry standard -- testing safety standard,  
1478 J3018. It is the only place in the country that does that.  
1479 And with this Federal preemption, you would get that taken  
1480 away from you.

1481           \*Ms. Clarke. Okay, so state and local governments have  
1482 a duty to protect the public from vehicle crashes, a role  
1483 that becomes even more important in the absence of strong  
1484 Federal action and leadership. And since NHTSA's inception,  
1485 the relationship between Federal, state, and local law have  
1486 been clear. Once a Federal safety standard is in effect,  
1487 state and local governments cannot enact or enforce safety --  
1488 different safety standards.

1489           I am concerned with any proposal that creates a  
1490 regulatory black hole where the Federal Government could fail  
1491 to prescribe safety standards, and state and local  
1492 governments would be prohibited from filling that -- filling  
1493 that void and enforcing local traffic laws.

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1494           There is a consortium of seven organizations  
1495 representing the nation's state and local elected and  
1496 appointed officials. They have written a letter calling on  
1497 Congress to preserve and -- preserve state and local  
1498 authority to promote traffic safety, and I ask for unanimous  
1499 consent that this letter be entered into the record.

1500           My final question. As co-chair of the Smart Cities  
1501 Caucus and the former chair of the Cybersecurity Subcommittee  
1502 at the Committee on Homeland Security, I am especially  
1503 conscious of the threats posed by increasingly digitized and  
1504 connected technologies. Dr. Koopman, would you consider an  
1505 autonomous vehicle that does not adhere to adequate  
1506 cybersecurity practices an unreasonable risk to roadway  
1507 safety?

1508           \*Dr. Koopman. I think it is really important that the  
1509 vehicles, all vehicles, conform to the industry standard for  
1510 cybersecurity. It is not -- this is not just an AV problem,  
1511 it is an any vehicle with a camera problem. And so AVs get  
1512 swept into that, as well. Yes, they should conform.

1513           \*Ms. Clarke. Very well. Mr. Chairman, I yield back.

1514           \*Mr. Walberg. [Presiding] I thank the gentlelady, and I  
1515 recognize myself for five minutes of questioning.

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1516 AVs clearly, from our discussion today and research  
1517 otherwise, have the potential for extensive transformation.  
1518 But we cannot fully realize the potential if we do not lead  
1519 the world in this technology. I think we would all agree  
1520 with that.

1521 My legislation, the Safe Car Act, is included in Mr.  
1522 Latta's draft we are discussing today.

1523 I also sent a bipartisan letter last week with  
1524 Representative Dingell, Latta, and Veasey outlining the  
1525 concerns with Chinese AV companies testing in the United  
1526 States. It is frustrating to think that the -- China will  
1527 not allow American companies to any extensive nature test  
1528 their AVs in China. When you stop and think about the  
1529 competitive problem that is, but also the security problem of  
1530 having more data collected and make AVs better, day by day,  
1531 drive by drive, think how much data the CCP is collecting on  
1532 the United States and its citizens. That is a concern.

1533 I am thankful that Secretary Buttigieg did respond to  
1534 this letter publicly, and I think it is a concern that we  
1535 have. So, Mr. Chairman -- I guess I am the chairman at this  
1536 point in time.

1537 [Laughter.]

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1538           \*Mr. Walberg. So there is no problem with unanimous  
1539 consent to have that letter included in the record.

1540           [Laughter.]

1541           \*Mr. Walberg. I hear no objection.

1542           [The information follows:]

1543

1544           \*\*\*\*\*COMMITTEE INSERT\*\*\*\*\*

1545

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1546           \*Mr. Walberg. It is imperative that we approach this  
1547 issue from both sides, boosting American AV leadership by  
1548 offering regulatory certainty and protecting against national  
1549 security and competitive risks through increasing China's  
1550 concerns and addressing those concerns. My legislation seeks  
1551 to address the latter.

1552           Mr. Koopman -- and all the panel, thank you for being  
1553 here -- do you support the language in the discussion draft  
1554 that I authored which would give the Secretary of  
1555 Transportation authority to prohibit or limit testing  
1556 vehicles within the U.S., depending on whether companies are  
1557 under the control of the CCP, or if companies within China  
1558 pose a threat to the security of the United States?

1559           \*Dr. Koopman. Sir, I am here to talk about safety, and  
1560 I don't really have an opinion on that topic.

1561           \*Mr. Walberg. I am concerned about that, and we could  
1562 talk about that further.

1563           \*Dr. Koopman. I would love to follow up with you and  
1564 understand more.

1565           \*Mr. Walberg. Yes.

1566           \*Dr. Koopman. At this point --

1567           \*Mr. Walberg. I know that you have been a consultant to



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1568 numerous companies, including, I believe, some Chinese  
1569 companies, as well, but we will leave that for further  
1570 discussion.

1571       \*Dr. Koopman. No, sir, I am not consulting to any  
1572 Chinese companies.

1573       \*Mr. Walberg. I am interested with your work with the  
1574 Voluntary Standards Committee. Are there Chinese companies  
1575 that participate in this?

1576       And second, given their numbers, do they have an  
1577 outsized role on development of the standards?

1578       \*Dr. Koopman. There are Chinese representatives on all  
1579 the standards I am aware of. I don't have a list for some of  
1580 the ISO standards I work on. For sure, there are Chinese  
1581 participants in UL 4600.

1582       They absolutely do not have an outsized influence. They  
1583 are not calling the shots by any stretch. It is -- the  
1584 direction is set by the U.S. and by Europe.

1585       \*Mr. Walberg. Yes. Well, the concern is that there are  
1586 Chinese involved.

1587       Let me move on to the next question, turning to a  
1588 separate issue. I am an avid motorcycle guy, co-chair of the  
1589 Congressional Motorcycle Caucus, lifetime member of the

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1590 American Motorcycle Association. As I said, true autonomous  
1591 vehicles will offer many safety benefits. But many in the  
1592 motorcycle community are concerned that technology is able to  
1593 properly detect and protect motorcyclists on the road. We  
1594 are a very different from pedestrians and bicyclists because  
1595 we are in and amongst the traffic.

1596 Mr. Shapiro, how are AV companies considering  
1597 motorcyclists in their safety tests?

1598 And how does the technology used by level four and five  
1599 autonomous vehicles differ from those in self-proclaimed full  
1600 driving mode when it comes to motorcycle awareness and  
1601 safety?

1602 \*Mr. Shapiro. Thank you, Mr. Walberg. My understanding  
1603 is that they are taking into account motorcyclists,  
1604 bicyclists, and they don't have blind spots on self-driving  
1605 vehicles, as opposed to what human drivers have in many  
1606 vehicles. So it will definitely be safer for motorcyclists  
1607 in a self-driving environment, and it is even getting safer  
1608 today before we get there, just with active collision  
1609 avoidance, things like that.

1610 So motorcyclists are identifiable on, my understanding  
1611 is, most self-driving vehicles today.

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1612           \*Mr. Walberg. They are out amongst the traffic, unlike  
1613 bicyclists and pedestrians, to a greater degree.

1614           \*Mr. Shapiro. Absolutely.

1615           \*Mr. Walberg. And going in between. So it is a  
1616 concern, and I hope we continue to address that.

1617           I appreciate your response and --

1618           \*Mr. Shapiro. Could I come back to your China question?

1619           \*Mr. Walberg. I think I have run out of time. I would  
1620 love to have you come back to the China question, but we will  
1621 talk about it later.

1622           \*Voice. Yield to Mrs. Dingell.

1623           \*Mr. Walberg. I now yield to Mrs. Dingell.

1624           \*Mrs. Dingell. Thank you, Mr. Chairman. As I laid out  
1625 in my opening remarks, I am very firmly committed to working  
1626 towards bipartisan agreement on AV legislation.

1627           Earlier this spring Representative Latta and I agreed to  
1628 roll up our sleeves and get to work on finding a path  
1629 forward. Our staffs have been meeting regularly with each  
1630 other, engaging all the stakeholders. I have also been  
1631 directly engaged in having good, bipartisan conversations,  
1632 not only with Representative Latta, as well as Chair Rodgers,  
1633 Ranking Member Pallone -- and I also want to say that the

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1634 ranking member of this committee, Jan Schakowsky, has been  
1635 like -- for years now, also involved in being in all these  
1636 meetings, and she is getting to know the industry well.

1637 [Laughter.]

1638 \*Mrs. Dingell. She loves it. And as my colleague who  
1639 is currently sitting in the chair mentioned, we led a letter  
1640 with Representative Walberg, Representative Latta, and  
1641 Representative Veasey about the national security and  
1642 competitiveness concerns related to Chinese companies  
1643 deploying AVs on U.S. roads, and I look forward to addressing  
1644 this mutual concern as part of our bipartisan AV legislation.

1645 What does all this work demonstrate? It shows that we  
1646 can have meaningful, bipartisan collaboration on AVs this  
1647 Congress, and we got a lot more work ahead of us. I am  
1648 committed to continuing this important work with my  
1649 Republican colleagues and my colleagues on this side of the  
1650 aisle to forge in advance comprehensive, bipartisan AV  
1651 legislation. And I am confident that Representative Latta  
1652 also really wants to get a bipartisan AV bill done, as well.  
1653 So we are in lock step.

1654 My first question to -- for all of the witnesses is are  
1655 you committed to continuing to work with Representative

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1656 Latta, myself, you, and others as we craft and move forward  
1657 bipartisan AV legislation this Congress? Are you willing to  
1658 make that commitment, yes or no?

1659 \*Mr. Bozzella. Yes.

1660 \*Dr. Koopman. Yes.

1661 \*Mr. Shapiro. Yes.

1662 \*Mr. Riccobono. Yes.

1663 \*Mrs. Dingell. A yes from everybody. Thank you for  
1664 those collective comments, commitments. They were  
1665 collective, too.

1666 Second, do you agree that it would be harmful overall to  
1667 the prospects of enacting any meaningful AV legislation this  
1668 Congress if the House or Senate moves forward with a strictly  
1669 partisan bill? Yes or no. I better go down the line.

1670 Mr. Bozzella?

1671 \*Mr. Bozzella. Yes, we need a bipartisan, bicameral  
1672 bill.

1673 \*Mrs. Dingell. Thank you.

1674 \*Dr. Koopman. Bipartisan sounds good to me.

1675 \*Mr. Shapiro. We love bipartisan.

1676 [Laughter.]

1677 \*Mr. Riccobono. I agree, bipartisan in the spirit of

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1678 the Americans with Disabilities Act.

1679 \*Mrs. Dingell. Great. In the spirit of bipartisanship,  
1680 in reaching compromise across a diverse group of  
1681 stakeholders, do you think we can collectively overcome the  
1682 obstacles of the past on AV legislation, and will you work  
1683 with us to do so?

1684 Down the line again.

1685 \*Mr. Bozzella. We must, because we are out of time.

1686 \*Dr. Koopman. I am happy to work with anyone to ensure  
1687 the safety of this technology and its benefits.

1688 \*Mr. Shapiro. The House passed legislation unanimously.  
1689 There is no reason it can't do it again.

1690 \*Mr. Riccobono. And I will say I believe that there is  
1691 no effort to diminish people with disabilities in this  
1692 process. So yes.

1693 \*Mrs. Dingell. Thank you. I had to bite my tongue and  
1694 say the United States Senate sometimes, but I will behave.  
1695 John Dingell is thinking it above.

1696 Now I have another question. As I mentioned at the top,  
1697 I share the concerns of my colleagues, Representative  
1698 Walberg, both on national security and competitiveness fronts  
1699 regarding the deployment of Chinese-made AVs on U.S. roads,

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1700 and I thank him for his leadership with me on this issue, and  
1701 Mr. Latta and Veasey.

1702 Mr. Bozzella, could you elaborate on the very real  
1703 impacts to American competitiveness, our supply chains, and  
1704 the American workforce if Congress fails to finally advance  
1705 comprehensive bipartisan legislation?

1706 \*Mr. Bozzella. Yes, I think it is critical that we do  
1707 so. I mentioned in my -- in both the written and oral  
1708 testimony that I have a concern, and that we are at a  
1709 crossroads. And without a comprehensive AV policy framework,  
1710 that companies are not going to be able to succeed in the way  
1711 they need to.

1712 What we need to do is allow companies to safely scale so  
1713 that they can provide these benefits and so, importantly,  
1714 NHTSA has the data they need to make sure that motor vehicle  
1715 safety standards are modernized, and that we have a  
1716 regulatory framework going forward. If we don't do that, our  
1717 competitors in other nations will seize this opportunity.

1718 \*Mrs. Dingell. Thank you, and I want to thank all of  
1719 our witnesses for being here today, for your important  
1720 testimony and responses on the two bills included in today's  
1721 hearing.

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1722           Again, I am going to reinforce we are -- I am committed  
1723 and I know my colleagues are committed to working with  
1724 Representative Latta, the members of this committee, and all  
1725 of the interested stakeholders on getting the policy right,  
1726 and drafting comprehensive bipartisan AV legislation for the  
1727 safe deployment of this technology.

1728           Thank you to the Energy and Commerce Committee  
1729 leadership for holding this important hearing, and this is  
1730 the beginning of getting it done this year.

1731           Thank you, Mr. Chair, and I yield back.

1732           \*Mr. Bilirakis. [Presiding] I am all for that. Okay,  
1733 the gentlelady yields back. I now recognize the gentlelady  
1734 from Arizona, my good friend, Mrs. Lesko. Thank you.

1735           \*Mrs. Lesko. Thank you very much, Mr. Chair, and thank  
1736 you, all of you, for being here.

1737           I am a huge supporter of autonomous vehicles. I think  
1738 they are very beneficial to everyone. I think they will be -  
1739 - make the roads more safe. I also think they will be very  
1740 beneficial to senior citizens and the disabled. In fact, in  
1741 Arizona, my home state, our Republican Governor Ducey was --  
1742 put in policies that really incentivized autonomous vehicle  
1743 companies to come to Arizona.



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1744           In fact, we have Waymo One, which operates 24/7 across  
1745           225 miles in metro Phoenix area. I have ridden -- rode in one  
1746           of them in downtown Phoenix, in the city of Peoria, Arizona,  
1747           where I live. We had a robo-ride medical autonomous electric  
1748           vehicle that operated in a health care district where there  
1749           were home to more than 100 medical facilities and more than  
1750           500 senior living residences. We also have May Mobility,  
1751           which is funded by AARP, operating in Sun City, Arizona,  
1752           which is a senior citizen community. And they have two  
1753           wheelchair-accessible vehicles that operate to help senior  
1754           citizens get around.

1755           So, Mr. Riccobono -- sorry if I said your name wrong --  
1756           you indicated that increased deployment of autonomous  
1757           vehicles would significantly improve the independence and  
1758           economic prospects for people with disabilities and mobility  
1759           limitations. In my district the Valley wAve project, which  
1760           is May Mobility, operates a wheelchair-accessible vehicle  
1761           with additional audio and visual accessibility -- or  
1762           accessory features. However, under the current regulations,  
1763           these deployments use existing FMVSS-compliant vehicle  
1764           designs, and modify them to be more accessible.

1765           My question is, how can the deployment of purpose-built

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1766 automated vehicles enabled by this legislation unlock even  
1767 greater accessibility designs from the ground up?

1768 \*Mr. Riccobono. So it is a great question. I would say  
1769 two things.

1770 One is there is a real opportunity here to innovate  
1771 around accessible design, especially in the physical  
1772 environment when we think about building vehicles that don't  
1773 require some of the controls that we have had in the past.

1774 I also think, you know, part of this is we need to build  
1775 that bridge to the future. So really centering people with  
1776 disabilities in terms of physical design, there is still  
1777 innovations to be had there. So I know my colleagues,  
1778 especially who do you utilize wheelchairs, have concerns that  
1779 we can use some of the existing exemptions and modifications  
1780 while we get to a future where we have safety restraints that  
1781 work for all types of people, including those who use various  
1782 varieties of wheelchairs.

1783 \*Mrs. Lesko. Thank you.

1784 Mr. Shapiro, you mentioned that autonomous vehicle  
1785 technology will empower millions of Americans -- I agree with  
1786 you -- providing greater independence and mobility for  
1787 seniors and people with disabilities. In my district --

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1788 again, in Sun City, Arizona -- we are seeing just that with  
1789 the AARP sponsoring the deployment of May Mobility's  
1790 wheelchair-accessible vehicles in service of a retirement  
1791 community.

1792 Arizona is home to a growing retirement population, and  
1793 this will bring increased mobility needs as residents age.  
1794 My question is what can we do to ensure we are leveraging  
1795 autonomous vehicle technology to meet the needs of  
1796 populations who are aging and may have subsequent mobility  
1797 limitations?

1798 My next question is please expand on what you wanted to  
1799 talk about on competition with China.

1800 [Laughter.]

1801 \*Mr. Shapiro. Thank you very much for those questions.

1802 So just to lay the groundwork, in 2021 there was 42,000-  
1803 plus deaths, 1.7 million injuries in the United States with  
1804 vehicles, 4.3 million accidents, collision. Think of the  
1805 money every American will save on insurance if he could even  
1806 cut those down by half. Think of the -- how the hospital  
1807 rooms will be emptied out, and the doctors could do what they  
1808 should be doing in other areas, the nurses, the anesthesiologists,  
1809 so many other people. There will be a huge savings, it will

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1810 benefit every American, not just those with disabilities.

1811           As a person on the panel who is over 65, I say I look  
1812 forward to it because I could get a lot of work done, as  
1813 opposed -- you know, when I am going on longer drives and  
1814 things like that, that I would appreciate. That would add to  
1815 our economy.

1816           In terms of China, I have long maintained that we should  
1817 treat China the way they treat us. We should have  
1818 reciprocity. If they are not letting us test our vehicles  
1819 there, we shouldn't let them test there. And that goes into  
1820 a lot of other areas. But you are focusing in this area  
1821 specifically.

1822           We have had a business at a big event in China. I have  
1823 had to deal with it. I have had to have the government  
1824 partnerships. There is a -- it is a longer discussion about  
1825 China, but clearly, they are our biggest long-term strategic  
1826 threat, not only militarily but in terms of what -- the type  
1827 of lifestyle they want compared to what we want our kids and  
1828 grandkids to be. So if you are talking about China, I am  
1829 interested.

1830           \*Mrs. Lesko. All right, thank you.

1831           And I yield back.

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1832           \*Mr. Bilirakis. The gentlelady yields back. Now I  
1833 recognize my friend from the State of Florida, Mr. Soto, for  
1834 his five minutes of questioning.

1835           \*Mr. Soto. Thank you, Chairman.

1836           Autonomous vehicles are part of a bold future for the  
1837 United States, and I envision many benefits and also  
1838 recognize challenges that we are going to have to negotiate  
1839 through.

1840           I think about the empowerment for so many Americans. We  
1841 have heard from Mr. Riccobono already about how it could help  
1842 Americans with disabilities, also seniors and young people.  
1843 And advancements in technology can increase public safety, as  
1844 was testified by Mr. Shapiro and others.

1845           We have challenges, though, obviously. We have a long  
1846 road ahead to advance the technology. We have job  
1847 disruptions in training and retraining that are real, and we  
1848 want to make sure to get on the proactive side of it. We  
1849 need to ensure these systems are resilient to cyber attacks,  
1850 and ensure we have access to the courts in the case of  
1851 negligence.

1852           In central Florida we have Beep, which is the longest  
1853 running local transit system in the nation, way back in 2019.

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1854 That is how new this technology is. They take veterans in  
1855 Lake Nona from different areas in the city to the VA  
1856 hospital. They take families to Nemours for cancer  
1857 treatment, and tourists around the Lake Nona area. They have  
1858 also been used in Chairman Bilirakis's area in Tampa Bay, I  
1859 am sure he is familiar with. And so we need to encourage  
1860 companies like this with new and innovative technology.

1861 We also need to see where we need to delineate between  
1862 what new laws NHTSA needs and what existing authority they  
1863 already have. Mr. Bozzella and Mr. Koopman -- or Dr.  
1864 Koopman, my first question is so NHTSA has exemption  
1865 authority and expertise already. What additional -- take  
1866 these bills aside for a second, right, this is where we are  
1867 kind of going. What do you think is the additional authority  
1868 and guidance they will need to keep pace with the development  
1869 of autonomous vehicles?

1870 We will start with Mr. Bozzella and then go to Mr.  
1871 Koopman.

1872 \*Mr. Bozzella. Thank you for the question. I think the  
1873 most important thing NHTSA needs is data. What they need is  
1874 they need to understand what is working. They need the data  
1875 to be able to modernize motor vehicle safety standards.

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1876           Right now those standards depend on feet and hands and  
1877 eyes. And so vehicles without steering wheels and pedals  
1878 need modernized standards. So the agency needs the data.  
1879 What the laws -- what the bills, both bills, do is give NHTSA  
1880 a framework for that -- to collect that data at a much  
1881 greater rate, and more quickly to modernize those standards.

1882           \*Mr. Soto. Dr. Koopman, what additional authorities  
1883 does NHTSA need, do you think?

1884           \*Dr. Koopman. I think there is two things they need.

1885           The first is that, traditionally, they have not enforced  
1886 the government -- the general government desire to make use  
1887 of existing industry consensus engineering standards. And  
1888 NHTSA has not done that historically. The framework proposed  
1889 in 2020 goes there, and I think that they need encouragement.  
1890 They may even need a mandate to go down that path and figure  
1891 that out.

1892           The second thing is they need more staffing. They are  
1893 chronically understaffed in computer expertise. They have a  
1894 small ability to hire now in that area, but they have been  
1895 understaffed for a couple decades, and they need to really  
1896 beef up their capabilities in that area to keep up with this  
1897 technology. And that is probably going to require funding.

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1898           \*Mr. Soto. So the appropriations process, cutting 15  
1899 percent off of NHTSA's budget this year from the President's  
1900 request, probably wouldn't be helpful.

1901           Dr. Koopman, you talked about potential new jobs, better  
1902 jobs training. For a lot of folks who are concerned about  
1903 the future autonomous vehicles, can you elaborate on some of  
1904 those examples?

1905           \*Dr. Koopman. Some examples are we heard earlier that  
1906 if there is a problem in the middle of the ride, which -- my  
1907 friends tell me this is happening regularly -- that there is  
1908 a remote staff to help people out. Well, those are jobs that  
1909 are going to be created that aren't there.

1910           Another one is going to be higher-skilled technicians  
1911 and higher-skilled safety drivers, because every new software  
1912 release, which will happen monthly or weekly, basically  
1913 forever, needs testers to make sure it is safe before it is  
1914 put out in the wild.

1915           Another one is some of the jobs will be there, but  
1916 change in nature. Somebody still has to babysit a hazardous  
1917 load, even if the truck is driving itself. Someone has got  
1918 to be there to unload the crates until that part gets  
1919 automated.



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1920           So I think there is a lot of different opportunities,  
1921 but they are a little bit different than just a driver behind  
1922 the wheel.

1923           \*Mr. Soto. Thank you. And there are concerns about our  
1924 constituents' rights like access to the courts, avoiding  
1925 forced arbitration, designating manufacturers as the  
1926 responsible entities, protecting state laws and common laws.

1927           And Mr. Chairman, we have a letter from dozens of  
1928 consumer groups talking about these types of concerns. I  
1929 move to introduce this.

1930           \*Mr. Bilirakis. Yes, without objection, so ordered.

1931           [The information follows:]

1932

1933           \*\*\*\*\*COMMITTEE INSERT\*\*\*\*\*

1934

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1935           \*Mr. Soto. And I yield back.

1936           \*Mr. Bilirakis. The gentleman yields back. Now I will  
1937 recognize the gentleman from the great State of Georgia, Mr.  
1938 Allen, for his five minutes of questioning.

1939           \*Mr. Allen. Thank you, Chair Bilirakis, for convening  
1940 this hearing. I also want to thank our witnesses for being  
1941 here today.

1942           I strongly support the development of self-driving  
1943 vehicles, and I am glad we are considering Representative  
1944 Latta's discussion draft today, which would establish a  
1945 preemptive national standard for these vehicles for the  
1946 future. If Congress does not act on this issue, I believe it  
1947 is a matter of national security. Allowing China to lead in  
1948 the development of AVs would cause serious damage to our  
1949 automotive and technology sectors.

1950           An important component of Mr. Latta's draft is language  
1951 that would increase the number of AVs that the DoT may  
1952 provide an exemption for if they qualify as safe or safer  
1953 than the current motor vehicle -- Federal Motor Vehicle  
1954 Safety Standards.

1955           As a small business entrepreneur, one of the reasons I  
1956 came to Congress was to make sure that the Federal Government

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1957 supports our start-up industries, and is not a roadblock.  
1958 For AV companies to be able to prove their value in the free  
1959 market, they must be allowed to sell their vehicles.

1960 This is a question for Mr. Bozzella and Mr. Shapiro.  
1961 NHTSA has a standing government order to require  
1962 manufacturers to report all crashes involving vehicles  
1963 equipped with advanced driver assistance systems, or  
1964 automated driving systems. Unfortunately, the reported data  
1965 does not specify whether the crashes were caused by those  
1966 vehicles.

1967 Do you have concerns with the lack of transparency in  
1968 this reporting system?

1969 And do you think this reporting problem could lead to  
1970 consumer confusion over the safety of these vehicles?

1971 And I will start with you, Mr. Bozzella.

1972 \*Mr. Bozzella. Thank you. Thank you for the question.  
1973 I agree that context is really important here, and I am not  
1974 sure that the data in the standing general order provides the  
1975 appropriate context. And so, as we do consider, for example,  
1976 what the future of the standing general order would be, and  
1977 how we think about data and transparency, I think making sure  
1978 that we have context is important.

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1979           And I agree with you 100 percent that that is important  
1980 to consumer awareness and confidence in the technology going  
1981 forward, that we understand what is working and the overall  
1982 context. In other words, how it fits in with what is  
1983 happening on the roads more broadly.

1984           \*Mr. Allen. Right. Mr. Shapiro?

1985           \*Mr. Shapiro. Thank you. I would agree with that.

1986           Right now, under the standing order, you have to report  
1987 just about anything. And it counts if a bird hit your car,  
1988 or there is a social media report that there was a  
1989 self-driving vehicle involved in an accident, even though it  
1990 may not have happened. So those are counted in the  
1991 statistics. So they really need to be sharpened up, frankly.

1992           But I think, if you look at the absolute numbers, which  
1993 are incredibly low, especially more recently -- almost no  
1994 deaths, very few injuries, some minor crashes -- it is  
1995 phenomenal. And there is the opportunity that everyone in  
1996 this country has is to pay lower insurance rates, to have a  
1997 whole new creation of jobs, lower costs, and stop the  
1998 carnage. And that is what we need to do.

1999           \*Mr. Allen. Right, exactly. Well, I remember when the  
2000 horse and buggy was replaced by the automobile. All these

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2001 people were scared to death of it.

2002 [Laughter.]

2003 \*Voice. How old are you?

2004 [Laughter.]

2005 \*Mr. Allen. Well, yes, I watched movies, okay?

2006 How can we encourage productive collaboration between  
2007 government and private sector to deliver this important  
2008 technology for the American people?

2009 \*Mr. Bozzella. I think collaboration is essential. And  
2010 what we can do is ensure that we have the certainty of a  
2011 comprehensive regulatory framework for the testing and  
2012 deployment at scale. That is where the partnership is at its  
2013 most essential.

2014 You mentioned a moment ago you are concerned about  
2015 start-ups. This is an opportunity for a rising tide to lift  
2016 all boats. There is so much activity happening with  
2017 innovation, technology, and start-ups in this country that  
2018 will benefit as this industry goes to scale.

2019 \*Mr. Allen. And I have got about 39 seconds. You know,  
2020 obviously, we have some preemptive legislation here.  
2021 Obviously, we hope it is bipartisan and it moves very  
2022 rapidly, but things don't happen that quick up here. But I

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2023 see this as a great opportunity to expand this economy.

2024 Would any of you disagree with that?

2025 Okay --

2026 \*Mr. Bozzella. No, sir.

2027 \*Mr. Allen. So this is the future. Great.

2028 Thank you very much, and I yield back, Chair.

2029 \*Mr. Bilirakis. I appreciate it very much. Now I will  
2030 recognize Mrs. Trahan for her five minutes of questioning.

2031 \*Mrs. Trahan. Thank you, Mr. Chairman, and thank you to  
2032 our expert witnesses for taking the time to be here today.

2033 As many of my colleagues have already said, this  
2034 committee has a longstanding history of working to ensure  
2035 that the automotive industry prioritizes the safety of  
2036 families who ride in their cars. And it is my hope that we  
2037 can once again find bipartisan consensus to ensure that that  
2038 legacy continues, particularly when it comes to the issues of  
2039 autonomous vehicles.

2040 Like millions of families across our country, I am  
2041 excited by the promise of AVs, and I share in the belief that  
2042 we need to do everything in our power to make sure they are  
2043 deployed safely. And I am grateful to my colleagues who have  
2044 rightly pointed out the many concerns, safety concerns with

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2045 AVs. And instead of repeating much of what has already been  
2046 said, I would like to talk about the impact of AVs on the  
2047 more than four million Americans who rely on the driving  
2048 profession.

2049 Just as ATMs reduced the need for bank tellers and self-  
2050 checkout lanes displaced many cashiers, I am concerned that  
2051 AVs, once deployed at high volumes, are destined to displace  
2052 Americans employed as drivers. And while our committee only  
2053 covers the personal vehicle portion, AVs have the potential  
2054 to cause even greater effects to commercial and public  
2055 transportation sectors, potentially displacing bus and truck  
2056 drivers and delivery workers, as well.

2057 Dr. Koopman, both of these bills would set the rules of  
2058 the road for decades to come, and set precedents that other  
2059 committees and policymakers will follow. Shouldn't Congress  
2060 consider workforce protections while drafting legislation  
2061 that could have such a lasting effect?

2062 \*Dr. Koopman. Yes, absolutely. This technology can  
2063 affect the workforce just like any other technological  
2064 innovation. And it is -- but it is also important to ensure  
2065 the safety of the workers who are in the vehicles being  
2066 driven by this technology, as well.

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2067           \*Mrs. Trahan. Thank you. And as exciting as the  
2068 promise of AVs are in our changing economy, we can't afford  
2069 to write off those who could be displaced by the rapid  
2070 deployment of AVs as the cost of this technological  
2071 advancement.

2072           Dr. Koopman, are there opportunities for Americans who  
2073 are gainfully employed in the driving profession to  
2074 transition to some high-quality jobs that may become  
2075 available as AVs are more broadly deployed?

2076           \*Dr. Koopman. Yes, I think there are. I think it is  
2077 important to recognize that this is not a you wake up the  
2078 next morning and all of a sudden all the truckers are out of  
2079 a job. That is not going to happen. And I see other  
2080 witnesses nodding along. It is not going to happen. This is  
2081 going to take years to play out. That doesn't mean -- as was  
2082 mentioned earlier, this is a 20, 30-year perspective. I get  
2083 that eventually we will get there, but it is not an overnight  
2084 thing. So the aging out of the current workforce also  
2085 factors in.

2086           But the big thing here is, yes, the jobs will be  
2087 changed, and it is going to be important to make sure those  
2088 workers land on their feet with other jobs, such as I



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2089 mentioned before, in the back room, helping intervene when  
2090 there is a problem on the road, making sure that the safety  
2091 is there, more highly trained technicians, because now the  
2092 LiDAR, if the LiDAR doesn't work, somebody could die. You  
2093 better make sure that LiDAR works.

2094 Yes, there is redundancy and so on, but this starts  
2095 looking more like aircraft maintenance than vehicle  
2096 maintenance.

2097 \*Mrs. Trahan. Thank you, Dr. Koopman.

2098 Mr. Chairman, on that point I would like to request  
2099 unanimous consent to submit for the record several letters  
2100 from the Transit Workers Union calling on Congress to include  
2101 workforce protections in AV legislation.

2102 \*Mr. Bilirakis. Without objection, so ordered.

2103 [The information follows:]

2104

2105 \*\*\*\*\*COMMITTEE INSERT\*\*\*\*\*

2106

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2107           \*Mrs. Trahan. Thank you.

2108           And to my colleague, Congresswoman Dingell, I commend  
2109 you for working to ensure that unions and workers have a  
2110 voice in your bill.

2111           While I still have a little bit more time -- which never  
2112 happens -- state and local governments are largely writing  
2113 the rules for the road for AV testing on their public  
2114 streets. Dr. Koopman, again, should state and local  
2115 governments be permitted to continue to play this role?

2116           And would you be concerned about a Federal AV framework  
2117 preempting state and local traffic related to AV testing?

2118           \*Dr. Koopman. I think that is a great question. I  
2119 think there is two phases.

2120           The first phase is while we are waiting for the Federal  
2121 regulations to actually come into effect, the states need to  
2122 be able to manage what is going on on the roads to protect  
2123 their constituents.

2124           The second part is when that transition does happen, the  
2125 way I envision it is the Federal Government still controls  
2126 equipment, as they do, but that should not prevent the  
2127 ability of the states to control their own locally necessary  
2128 rules of the road. So the Federal Government should make

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2129 sure that the vehicles are able to follow whatever the local  
2130 road rules are, and the states and localities should be able  
2131 to set the local road rules responsive to local conditions.

2132 So, for example, in Pittsburgh there is a school for  
2133 disabled, and the City of Pittsburgh might not want testing  
2134 to happen at their front doorstep. They should be allowed,  
2135 if they so desire, to say, no, you can't test on that block.

2136 \*Mrs. Trahan. Great. Thank you.

2137 I yield back.

2138 \*Mr. Bilirakis. Thank you very much. Now I will  
2139 recognize the gentleman from South Carolina, the chairman of  
2140 the Energy Subcommittee, Mr. Duncan, for his five minutes of  
2141 questioning.

2142 \*Mr. Duncan. Thank you, Mr. Chairman.

2143 You know, many of my colleagues have dedicated their  
2144 time to talk about safety and, obviously, that is an  
2145 important issue and part of this discussion. But I want to  
2146 pivot a moment to talk about a different aspect of public  
2147 safety, namely how to safeguard our individual liberties as  
2148 American citizens.

2149 Several AV companies are offering ride hailing services  
2150 on apps they control using fleets they own, rather than

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2151 selling those cars to American consumers who may wish to  
2152 maintain control of their own vehicles, as most of us do  
2153 today. Many of my constituents are wary of the potential to  
2154 be forced into autonomous rideshare platforms, rather than  
2155 continuing to own their own vehicle.

2156 Mr. Bozzella, how can we ensure that consumers will  
2157 retain this choice in the future, the choice to own and  
2158 maintain their own cars, whether they are autonomous or not?

2159 \*Mr. Bozzella. Yes, thank you. What I think you are  
2160 going to see -- in fact, what I know you are going to see  
2161 with regard to this technology -- is a number of different  
2162 use cases.

2163 So, for example, when you think about the definition of  
2164 autonomous vehicles today, we are talking about not only  
2165 fully autonomous self-drive vehicles with absolutely no  
2166 driver, but we are also talking about what we refer to as  
2167 level three vehicles, which are very likely to be owned by  
2168 individuals. And in that case, you have a situation where  
2169 sometimes the technology, the automated driving system, is  
2170 driving the vehicles and sometimes the owner or the driver of  
2171 the vehicles operating those --

2172 \*Mr. Duncan. Like Teslas today, where you reach out --

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2173           \*Mr. Bozzella. Yes. Although Tesla, as I understand  
2174 it, is not a level three vehicle. Those are actual driver  
2175 assist technologies. We are talking about a step beyond  
2176 that. And there is a big bright line between assistance  
2177 technologies and the type of technology I am talking about.

2178           But that is an example where I think you will see  
2179 private ownership continue to flourish in a much safer  
2180 context.

2181           \*Mr. Duncan. Yes, thank you for that.

2182           Those of us who have watched the development of AI in  
2183 the past few months have noticed a glaring problem that we  
2184 have seen with Big Tech for years, namely the problem of  
2185 bias, and in this case programmatic bias.

2186           As a strong supporter of the Bill of Rights, I want to  
2187 make sure that we have strong guardrails in this industry as  
2188 it takes off, ensuring that we protect First Amendment rights  
2189 of freedom of religion, speech, assembly, impacted mobility,  
2190 the Second Amendment freedom to bear arms, and the Fourth  
2191 Amendment freedom from warrantless search and seizures.

2192           So I would like to hear from the witnesses. How do we  
2193 protect against a biased algorithm deciding which locations  
2194 an AV will or will not go to, like gun shops, or houses of

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2195 worship, or such a thing?

2196 Mr. Shapiro, would you comment on that?

2197 \*Mr. Shapiro. I think that this concern and the one  
2198 prior are -- will be addressed in time. But I know you want  
2199 to hear that they can be addressed today.

2200 I think the question of choice that you raise in your  
2201 first question is something that will be debated perhaps 5,  
2202 10 years from now still, because it would be too premature  
2203 with so many options out there. There is no mandates  
2204 anywhere.

2205 In terms of algorithmic bias, in terms of location, I  
2206 can't imagine that is going to occur, unless it  
2207 potentially --

2208 \*Mr. Duncan. Well, I mean, it is already occurring with  
2209 Airbnb, it is already occurring with some other app-based  
2210 services where, you know, based on some political position  
2211 you take, your support for certain constitutional rights  
2212 prohibits that private contractor or private ownership  
2213 company from allowing individuals to stay there, and  
2214 possibly, for an AV like we are talking about today, to take  
2215 that person to that location.

2216 Mr. Bozzella, would you like to comment on that?

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2217           \*Mr. Bozzella. Well, I would say this. It is -- it  
2218 would be hard to make a business that is not supportive of  
2219 choice and customers broadly.

2220           What the goal of the companies we work every day at with  
2221 is to expand access to this type of transportation -- urban,  
2222 rural, everywhere -- because, ultimately, it is about safety,  
2223 and it is about choice, and it is about freedom of movement.  
2224 That is what really defines this technology at this stage in  
2225 the game.

2226           So it would be hard for me to imagine a scenario where a  
2227 company could be successful doing that.

2228           \*Mr. Duncan. Airbnb is really successful, and they  
2229 banned Michelle Malkin just for her political views.

2230           How do we ensure that citizens have the right to  
2231 concealed carry, and it can continue to do so in autonomous  
2232 vehicles that other people own in a rideshare situation?

2233           Mr. Bozzella or Mr. Shapiro, or anyone else on the  
2234 panel?

2235           \*Mr. Shapiro. Well, I think the way it works today is  
2236 that companies follow local laws, and that is what they do.  
2237 Companies are very concerned about their reputations. And  
2238 the concept of entering social issues is increasingly

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2239 becoming disfavored because they recognize it is very  
2240 difficult.

2241           So I think companies are just -- the number-one thing  
2242 they are trying to do is make sure they go in the areas and  
2243 follow the local speed limits that everyone is talking about.  
2244 And I can't imagine that they start saying we can't go into  
2245 this area, unless it is considered unsafe for self-driving  
2246 vehicles or people are, like, throwing things at them or  
2247 something.

2248           So in terms of issues like gun control or gun rights,  
2249 depending on your view, I think that is an issue which I  
2250 would like to come back to the committee on, because I  
2251 haven't thought about it before.

2252           \*Mr. Duncan. Yes, I mean, we are already seeing  
2253 companies prohibit services to folks because of their  
2254 political positions that they have taken publicly. And I  
2255 just want to make sure it doesn't happen if we are moving  
2256 toward AVs for rideshare apps, that sort of thing.

2257           Mr. Chairman, my time is up and I yield back.

2258           \*Mr. Bilirakis. The gentleman yields back. Now we will  
2259 recognize Mr. Armstrong for -- oh, excuse me, Mrs.  
2260 Harshbarger is next. I am sorry.



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2261 \*Mrs. Harshbarger. Oh, okay.

2262 \*Mr. Bilirakis. You are recognized for five minutes.

2263 \*Mrs. Harshbarger. Thank you, Mr. Chairman.

2264 \*Mr. Bilirakis. My pleasure.

2265 \*Mrs. Harshbarger. This will go to Mr. Bozzella or Mr.  
2266 Shapiro.

2267 You know, I live in a very rural district in east  
2268 Tennessee, and not every road is going to be mapped. You can  
2269 go down a long driveway, long, long driveways, and it will  
2270 require the same precision that is required for an autonomous  
2271 vehicle to operate on the road. And I know there has been  
2272 tremendous strides in preparing the technology for urban  
2273 areas, but we can't forget about rural America.

2274 What is being done to ensure that the people that live  
2275 in east Tennessee will be able to reap the same benefits of  
2276 autonomous vehicles that they do in urban areas?

2277 \*Mr. Bozzella. Well, thank you for the question.

2278 Right now there are over 80 companies in 30 different  
2279 states that are already operating, already testing, already  
2280 developing. That needs to be 50 states, and it needs to be  
2281 everywhere. And the benefits need to be available to  
2282 everybody.

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2283           The way to do that is to expand the opportunity to test  
2284 and deploy across the country. That is what Chairman Latta's  
2285 bill does, and it is also what Congresswoman Dingell's bill  
2286 does. That is the fastest way to get there, is to allow the  
2287 companies to safely and carefully expand. That is going to  
2288 allow more use cases. It is going to allow more  
2289 opportunities in places like your district.

2290           \*Mrs. Harshbarger. Okay.

2291           \*Mr. Shapiro. I would agree with that. And although I  
2292 said before I love Congressman Latta's bill, I would love it  
2293 more if it had greater exemptions in it, because if you want  
2294 to scale up, you want to get into the rural community, you  
2295 want to get out there, you need to be able to have a  
2296 commercially viable product.

2297           \*Mrs. Harshbarger. Yes. Well, thank you for that, sir.  
2298 Are you doing anything in rural areas like Tennessee or  
2299 across Tennessee?

2300           \*Mr. Bozzella. There are tests happening and different  
2301 use cases being explored, whether it is getting people to  
2302 health care or moving people to shopping and those types of  
2303 things. There is no question that we need more of that. And  
2304 as I said, the fastest way to get more of that is to allow

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2305 companies to scale.

2306 \*Mrs. Harshbarger. Okay. Mr. Riccobono, would you like  
2307 to comment on the need for access to transportation in rural  
2308 parts of our country, sir?

2309 \*Mr. Riccobono. Well, sure. I mean, disability is not  
2310 geographically bound, right?

2311 \*Mrs. Harshbarger. Right.

2312 \*Mr. Riccobono. So the thing about disability is it can  
2313 happen to any of us. And so, you know, a lot of times when  
2314 people experience disabilities, they are living in the  
2315 community they were in when they acquired that disability.  
2316 And so the need for transportation, reliable transportation,  
2317 is emergent when it happens.

2318 So making sure that this technology is available in all  
2319 communities, including rural communities, is important  
2320 because, you know, especially when people have acquired  
2321 disabilities, they are not in a position to move to a  
2322 different location to continue their life. So having this  
2323 available and not be geographically bound is really critical  
2324 to truly making sure that we can all benefit from the  
2325 technology.

2326 \*Mrs. Harshbarger. Well, I appreciate that answer, and

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2327 I guess we will be looking at exemptions, gentlemen. Thank  
2328 you.

2329 With that, Mr. Chairman, I yield back.

2330 \*Mr. Bilirakis. Does anybody want the time? Mr. Latta,  
2331 do you want some time? You have got about a minute and 22  
2332 seconds.

2333 [Laughter.]

2334 \*Mr. Latta. I will always take a minute. But, you  
2335 know, first of all, thanks very much for letting me waive on,  
2336 and I will get to have my time a little bit later. But let  
2337 me just say this real quick, and I was just -- for an  
2338 opening.

2339 You know, we have covered a lot of ground in today's  
2340 hearing, and I hope to put a finer point on a few areas of  
2341 interest to our discussion. When I began working on this  
2342 issue in 2016, AVs were largely an aspirational concept that  
2343 held the promise of opening new mobility opportunities for  
2344 our seniors and those with disabilities, reducing congestion  
2345 on our streets, and making our roadways safer. Now, as we  
2346 sit here today, it has become clear that it is not just a  
2347 theory. AVs have already traveled millions of miles on  
2348 American roads, and companies deploying AVs have been

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2349 reporting any incidents to NHTSA.

2350           And let me just say this in my -- this last 30 seconds  
2351 of the time. When I started on this legislation, I said two  
2352 things. Number one, these vehicles have to be as safe as or  
2353 safer than anything that is on the road today. And the  
2354 second point is it is safety first, safety last, safety  
2355 always, because we want to make sure that people, when they  
2356 are driving down that road either in that vehicle or another  
2357 vehicle that might be autonomous that is coming at them, they  
2358 know it is safe, that you are not going to have something  
2359 crossing the road on you.

2360           So, Mr. Chairman, I appreciate the minute and a quarter  
2361 I had, and I appreciate again the opportunity to be on the  
2362 subcommittee today, waiving on.

2363           \*Mr. Bilirakis. Well, I appreciate that. And that is  
2364 not taken away from your five minutes. I just thought that  
2365 -- I know you are an expert in this area, and I appreciate  
2366 your leadership.

2367           Now I will recognize vice chairman of the full  
2368 committee, Mr. Armstrong, for his five minutes of  
2369 questioning.

2370           \*Mr. Armstrong. Thank you, Mr. Chair. And I am by no

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2371 means an expert in this area. However, I think the second  
2372 part of safety becomes really important.

2373         July 27, 2017, a year-and-a-half before I came to  
2374 Congress, this committee passed the SELF DRIVE Act by a vote  
2375 of 54 to 0. Unfortunately, that bill died in the Senate, due  
2376 largely in part to civil liability questions. And it is  
2377 important because the most common personal injury case are  
2378 vehicle accidents. In fact, they are 52 percent of all  
2379 personal injury cases.

2380         And it is July of 2023, 6 years later, and we really  
2381 haven't addressed those issues. We can address it from  
2382 science. We can address it from safety. But the second part  
2383 of that is when somebody gets injured, somebody gets sued,  
2384 and -- which means the industry continues to operate without  
2385 certainty, risking billions in capital and undermining U.S.  
2386 leadership in this field.

2387         Perhaps one day, with the universal adoption of level  
2388 five automation, we will have minimal auto accidents and  
2389 injury. But the future may allow for a regime in which the  
2390 current fault-orientated standards yield to a simplified  
2391 products liability. This is essentially what Representative  
2392 Dingell's draft states, that liability is assigned to the

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2393 original automated driver -- driving system, a replacement  
2394 automated driving system.

2395           However, in the near term we will see a mix of highly  
2396 autonomous vehicles and conventional vehicles. That means  
2397 the current fault-orientated liability regime remains, but  
2398 with increasing efforts to impose product liability claims  
2399 against manufacturers of a highly autonomous vehicle.

2400           We have already seen warning defect claims and risk  
2401 utility design defect claims with level two vehicles, but  
2402 let's take a level three vehicle: conditional driving  
2403 automation and a driver actively monitoring and ready to take  
2404 over. So the questions are, did the driver act reasonably in  
2405 taking over the vehicle after an alert? Did the driver  
2406 respond fast enough to take over the vehicle? Did an  
2407 unanticipated hazard arise requiring a rapid response which  
2408 did not provide adequate time for a driver to take over? How  
2409 do we account for comparative and contributory negligence?

2410           And these are all going to be challenging questions for  
2411 courts to consider regarding design risk, utility, and  
2412 feasibility. And these issues will be even more challenging  
2413 for juries, as it will require reliance upon expert testimony  
2414 about advanced automotive engineering. And maybe that is the

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2415 answer: leave it to a state-based tort claims law.

2416 Perhaps we adopt what some have called a manufacturer  
2417 enterprise responsibility. This is basically a government  
2418 compensation fund for those injured. It is financed by an  
2419 upfront assessment on highly autonomous vehicle  
2420 manufacturers, and no liability on the back end.

2421 My question -- and it will be for you, Mr. Shapiro --  
2422 what liability regime, if any, should we enact for level  
2423 three and four vehicles which allows the industry to mature  
2424 and produce level five vehicles?

2425 \*Mr. Shapiro. Well, thank you for the question, and I  
2426 appreciate the level -- I know you have a litigation  
2427 background.

2428 \*Mr. Armstrong. Yes, I am not nearly smart enough to  
2429 talk about the science, but --

2430 \*Mr. Shapiro. No, I felt like I was --

2431 \*Mr. Armstrong. When a minivan goes off the road in  
2432 Florida and five people are killed, somebody is getting sued.

2433 \*Mr. Shapiro. I feel this is like my final exam  
2434 question in law school. You raised the correct issues,  
2435 absolutely.

2436 But the big picture is we got to get and make safer



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2437 cars, given the carnage on the road. How do we get there,  
2438 and how do we get there in a way which gets us there quicker?  
2439 Because every year we get there quicker, we are saving lives  
2440 and injuries and property damage. You didn't mention the 4.3  
2441 million car accidents we had in 2021, and all the costs that  
2442 imposed on consumers and the insurance rates.

2443 But right now I think that the Federal arbitration  
2444 standard is good, because it basically makes the system much  
2445 more efficient. It cuts down on the costs involved for all  
2446 the parties involved. The consumers end up getting more  
2447 money. The manufacturers may end up paying less. But the  
2448 system works, and there is no slippage through other people  
2449 trying to make money off it.

2450 And the other thing is I think, as we get more and more  
2451 cars on the road, those problems dissipate. It doesn't wait  
2452 until we get to all level five everywhere. If we could get  
2453 90 percent of these car accidents out of the way -- and as  
2454 Secretary Buttigieg said, that even if we get -- AVs reduce  
2455 50 percent of lives, they are still going to be criticized.

2456 So we have to also get the public to expect there are  
2457 going to be issues. What do you do if someone intentionally  
2458 has an accident with an AV? I mean, what do you do if they

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2459 are throwing rocks and breaking things? What do you do in  
2460 different situations? And I think these are areas for  
2461 discussion, but they -- I don't think Congress has to resolve  
2462 those today, because there is a state tort system which is  
2463 set up and can resolve them on a state-by-state basis. And  
2464 if Congress has to then step in, it will step in. But  
2465 meanwhile, insurance will go down in rates for most  
2466 consumers, especially if they have self-driving cars.

2467       \*Mr. Armstrong. So I think the science and the  
2468 technology will get you there. And I think, in the totality,  
2469 you are absolutely 100 percent correct. But in order to have  
2470 a commercially viable automobile, you have to have insurance  
2471 on it. And if you think Congress moves slow, if I can't walk  
2472 into any car dealership anywhere in the country and buy a car  
2473 that I can get insured, then we run the real risk of the  
2474 technology far outpacing the policy.

2475       Because I agree, on the abstract, it is going to be  
2476 safer. But each one of these individual cases is still going  
2477 to be subject to a plaintiff's lawyer, an insurance company,  
2478 and a defense lawyer. And until we figure that out,  
2479 unfortunately, this is just a science project.

2480       \*Mr. Shapiro. Well, I won't speak for the insurance

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2481 industry, but I would be shocked if they are not willing to  
2482 have a lower insurance rate for self-driving cars.

2483 \*Mr. Armstrong. I yield.

2484 \*Mr. Bilirakis. The gentleman yields back. I now  
2485 recognize my fellow Florida gator. I think something like  
2486 this is going on in Gainesville, isn't it, with AVs? I  
2487 believe so. So I recognize you for five minutes of  
2488 questioning. Thank you.

2489 \*Mrs. Cammack. Yes, we actually do have an AV in  
2490 downtown Gainesville, and it moves -- not very fast, so there  
2491 is a lot of frustrations with it, I will say that. But thank  
2492 you, Chairman Bilirakis. Go Gators. This is a very  
2493 important hearing today. Excited to be a part of the  
2494 conversation.

2495 Like my colleague Representative Armstrong, I am not a  
2496 science person. I cannot explain the science or the data or  
2497 the technology, so I will stick to really what I know. But I  
2498 do want to, as we jump into this line of questioning,  
2499 highlight the importance of data security, privacy concerns  
2500 that have been expressed. I think, as we talk about this  
2501 important issue, we have to have that lens and that concern  
2502 in the back of our head because this can quickly get out of

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2503 hand, as we have seen in so many areas of our life.

2504 I think this has been hit on quite a bit before, but  
2505 just for the interest of having it on the record for myself,  
2506 Mr. Shapiro and Congress around the country, many are  
2507 concerned about the growing threat of the Chinese Communist  
2508 Party, and we have seen that Americans increasingly,  
2509 regardless of party affiliation, where they are in the  
2510 country, any sort of background, they share this concern  
2511 about the CCP.

2512 And tying that into autonomous vehicles and the testing  
2513 situation that we are faced with, are there any U.S.  
2514 companies currently testing in mainland China? That is the  
2515 first question.

2516 Second is, are these companies able to send the data  
2517 that they collect back to the United States from the  
2518 mainland?

2519 \*Mr. Shapiro. I am not aware of any U.S. companies  
2520 testing in China, but I would like to follow up with a  
2521 response, especially if I am wrong.

2522 \*Mrs. Cammack. Okay. No, I would appreciate that. But  
2523 on the --

2524 \*Mr. Shapiro. And the second question, can they

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2525 transfer data back and -- there is plenty of laws in China  
2526 that they have that we don't have.

2527 \*Mrs. Cammack. Right.

2528 \*Mr. Shapiro. And definitely, Chinese companies are  
2529 treated better in the United States, by far, than American  
2530 companies are treated in China in almost every way possible.

2531 Having closed down our Chinese office there as a trade  
2532 association, I can tell you part of the concern was for our  
2533 own American employees.

2534 \*Mrs. Cammack. Right.

2535 \*Mr. Shapiro. Because I say things before Congress that  
2536 are sometimes controversial, and it is --

2537 \*Mrs. Cammack. Me too. I get that.

2538 [Laughter.]

2539 \*Mr. Shapiro. And I think in this room we share a  
2540 concern that China is a major strategic threat, and what we  
2541 should do about it.

2542 But I think we should beat them in the marketplace. And  
2543 the way we beat them in the marketplace is we get this  
2544 legislation passed, we get it out there. Of course, we focus  
2545 on cybersecurity and our own things. But we have to get  
2546 there, because we have done nothing as a government for

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2547 several years now, and other governments have seen that, and  
2548 they are speeding ahead, and they don't have the privacy  
2549 restrictions we have. They don't have the cybersecurity,  
2550 they don't have the lawyers we have. They don't have  
2551 everything, and the challenges we face. They just get it  
2552 done. And that is what scares me.

2553 \*Mrs. Cammack. Do you want to tell me how you really  
2554 feel?

2555 [Laughter.]

2556 \*Mrs. Cammack. No. And just to put a button on it,  
2557 there are Chinese companies that are testing in the United  
2558 States sending that data back to the mainland. Correct?

2559 \*Mr. Shapiro. I honestly don't -- I know there are  
2560 Chinese companies testing here. I don't know what they are  
2561 doing with their data.

2562 \*Mrs. Cammack. You are chomping at the bit down there.

2563 \*Mr. Bozzella. No, I was simply saying I was going to  
2564 add that -- the same thing that Gary said. There are  
2565 definitely Chinese companies testing here. I don't know  
2566 where the data is going. I have no idea.

2567 \*Mrs. Cammack. I think it is safe to assume that it is  
2568 making it back, given some of the legislative issues that we

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2569 contend with here versus over in mainland China.

2570           \*Mr. Shapiro. Can I just add a cautionary note, though?  
2571 I agree with the intent on the legislation for China, but we  
2572 have to be very careful. When we are talking about our  
2573 publicly-traded companies, if -- there are probably  
2574 shareholders in China. And so if you own even a little bit  
2575 of an American company, I don't think that should ruin the  
2576 ability of an American company to do what it has to do to  
2577 compete in this country and globally, frankly.

2578           \*Mrs. Cammack. I understand. And because I am running  
2579 short on time, I want to jump into this next section.

2580           But shifting gears, I think we can all agree that the  
2581 National Highway Traffic Safety Administration's goal of  
2582 creating a reporting process for AVs and driver assistance  
2583 systems and real AVs, it was it was a good one, right?

2584           However, the process that they employed to create this  
2585 reporting requirement was really incredible, and should be  
2586 part of the record. Instead of using their broad authority  
2587 under the safety act to write a new rule, they used special  
2588 emergency provisions to escape the Paperwork Reduction Act  
2589 requirement for notice and comment when putting a general  
2590 industry reporting requirement in place. Once they did start

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2591 a comment period six months later, NHTSA gave companies  
2592 month-to-month notice of extensions for an entire year while  
2593 they finished the rule.

2594 Now, this rule requires reporting of everything from an  
2595 actual crash to a bird hitting a vehicle to someone posting  
2596 on social media without any evidence that they were in a  
2597 crash with an AV.

2598 Now, on top of that, if a company incorrectly submits  
2599 data, NHTSA does not correct or redact inaccurate data from  
2600 the record. For example, incorrectly labeling level two  
2601 driver assistance systems as a level four autonomous system  
2602 before publishing it monthly on their website. Bad data  
2603 equals bad outcomes and bad decisions.

2604 So this committee passed the TREAD Act in 2000,  
2605 requiring reporting from all OEMs. Now, this committee knows  
2606 how to structure reporting so that NHTSA can conduct  
2607 oversight and get the data from industry. The AV SGO misses  
2608 the mark. Sorry, I know that is a mouthful, but I am getting  
2609 to it.

2610 Mr. Shapiro, did NHTSA ever reach out to CTA for  
2611 feedback on reporting requirements?

2612 And are you concerned about how they are approaching



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2613 regulating AVs?

2614 And I know I am over time, but take it away because I  
2615 know the chairman wants to hear this answer too.

2616 \*Mr. Shapiro. I am sorry, I can't answer that question.  
2617 I will have to check with our team.

2618 But I will say I am a big fan of the Administrative  
2619 Procedures Act, and I think it is important that it be  
2620 followed. And increasingly, as each new administration comes  
2621 in, it seems we are diminishing the role of Congress and  
2622 giving the executive agencies ability to, frankly, do things  
2623 they shouldn't be doing.

2624 \*Mrs. Cammack. Absolutely. I appreciate your  
2625 commentary.

2626 Thank you to all our witnesses, and thank you for --  
2627 everyone for being here and in the committee today.

2628 With that, Mr. Chairman, I yield back.

2629 \*Mr. Bilirakis. The gentlelady yields back. I now  
2630 recognize the sponsor of one of the bills in this legislative  
2631 hearing, Mr. Latta, for your five minutes of questioning.

2632 \*Mr. Latta. Well, thanks, Mr. Chairman. And again,  
2633 thanks for letting me waive on today.

2634 Mr. Shapiro, let's talk preemption. Other than the fact

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2635 that California made clear it needed to preempt its own  
2636 cities on traveling the state, it seems a bit odd that there  
2637 wouldn't be a Federal policy that didn't recognize the need  
2638 to cross state lines, especially for this committee. The  
2639 interstate commerce clause is very important.

2640         Would you provide some perspective on the need to  
2641 establish preemptive standards to set uniformity over the  
2642 design, performance, and construction of AVs? Because I sure  
2643 don't want to be driving in an AV in northwest Ohio and get  
2644 to the Indiana and Michigan line and it just says we are  
2645 pulling over.

2646         \*Mr. Shapiro. I agree with the premise of the question.

2647         What distinguishes the United States, which has been  
2648 incredibly innovative and successful, from our friends in  
2649 Europe is that we have national -- the national ability to  
2650 reach our 330 million or so marketplace with standardized  
2651 products. To the extent we deviate from that, we are hurting  
2652 our competitiveness. And Europe hasn't had a lot of  
2653 innovation in a lot of areas, to be honest, lately for a  
2654 whole bunch of reasons. And I think they are the model that  
2655 -- we love them, but we don't want to emulate them.

2656         And I think, if you have to change your license plate

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2657 and change your rules as you cross state lines, that is a  
2658 problem. New York has a rule that says that every car there  
2659 you have to have a foot and -- touching the brake, and things  
2660 like that. There is rules which are difficult and impossible  
2661 to follow.

2662 I do agree, though, that there is state and local  
2663 rights. They have the right to set speed limits. They have  
2664 the right to figure out their traffic and what they are  
2665 doing. But -- and there is areas of overlap and balance.

2666 [Pause.]

2667 \*Mr. Latta. Sorry about that. It is 55 as you cross  
2668 the next road. You know, we understand that. But we are  
2669 talking, on the preemption side, that bumper to bumper.

2670 \*Mr. Shapiro. Well, certainly self-driving, if we  
2671 deploy it as your legislation and the Dingell compliment  
2672 envisions, we will reduce the bumper to bumper. We will  
2673 reduce the disparity in speed among the different cars. We  
2674 will be more efficient, we will be greener. We will have  
2675 fewer parking structures, we will greater deploy cars in a  
2676 sense that right now the average car is using about 10 to 12  
2677 hours a week. These cars could be used for 40 to 50 hours,  
2678 they could be shared, they could be cheaper. They won't have

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2679 the heavy weight that is required, and the cost of having all  
2680 the driver features.

2681 The opportunities here are enormous. And I can't say  
2682 that we could predict exactly what they will be, but just --  
2683 any one of them is great: empowering the disabled, helping  
2684 the economy, increasing -- being more efficient in energy.  
2685 Like, there won't be cars -- people driving around lost  
2686 anymore.

2687 I mean, we are going to get some people off the road,  
2688 and the driving there will be much more efficient. If we  
2689 could just get rid of even 50 percent of the accidents, we  
2690 are in great shape.

2691 This is like -- I have testified before Congress dozens  
2692 of times now. And let me tell you, this is the most  
2693 important testimony I feel I am giving, because we have got  
2694 to get there for so many different reasons.

2695 \*Mr. Latta. Absolutely.

2696 Mr. Bozzella, let me -- you mentioned something. I  
2697 think we need to go back to this. You mentioned about  
2698 companies out there right now -- you know, we have been  
2699 working on this for years, and I know it. There has been a  
2700 lot of work done by so many different companies.

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2701           Are we losing companies out there on the innovation side  
2702 that are just saying, you know, we are going to throw up our  
2703 hands and say this isn't going to get done in the United  
2704 States, and they just can't keep funneling money into a  
2705 company or into projects that aren't going to -- they don't  
2706 see an end to?

2707           \*Mr. Bozzella. Yes, the short answer is yes. And that  
2708 is unfortunate.

2709           We are very much, in my opinion, at a crossroads here.  
2710 There is massive capital that needs to be deployed to develop  
2711 and build out and commercialize this technology. We have  
2712 been at it for quite some time. As you referenced in your  
2713 comments, when we first started this exercise together, it  
2714 was an R&D exercise. Now we are deploying technology,  
2715 proving out business cases, and showing use cases. This is  
2716 critical that we get this done now. We are going to lose  
2717 more companies and our innovative edge to other countries if  
2718 we don't do this now.

2719           \*Mr. Latta. You know, just real quickly, how much have  
2720 we lost? How many companies out there have just said we give  
2721 up? And pretty much, as you mentioned about that technology  
2722 and that expertise going someplace else?

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2723           \*Mr. Bozzella. Yes, you know, it is hard to know  
2724 because there is so much change and flux in this environment  
2725 right now, new companies starting all the time and challenged  
2726 companies moving out.

2727           But there is certainly one well-known company that was  
2728 partnered with major automotive manufacturers that -- and I  
2729 think Mr. Shapiro referenced it in his testimony, a company  
2730 known as Argo that is no longer operating as a result of  
2731 uncertainty and capital allocation decisions that had to be  
2732 made by their partners.

2733           This is real, and it can continue to happen if we cannot  
2734 provide an opportunity and a framework to scale.

2735           \*Mr. Shapiro. Can I just add something quickly to that?  
2736 I will say, though, that if your legislation becomes law,  
2737 that will be not only a strong message to those who are  
2738 already in there, but for others that want to enter and for  
2739 those that are considering investments and coming up with the  
2740 money that is a statement, especially if you include some  
2741 milestones in the legislation.

2742           \*Mr. Latta. Right. Mr. Chairman, thank you very much  
2743 for allowing me to waive on, and I yield back.

2744           \*Mr. Bilirakis. Thank you. Thank you. I believe Mr.

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2745 Veasey is here, so we will recognize Mr. Veasey for five  
2746 minutes of questioning. Thank you.

2747 \*Mr. Veasey. Mr. Chairman, thank you very much.

2748 First responders, police, fire, EMS selflessly put their  
2749 lives on the line every day to keep our communities safe.

2750 And autonomous vehicles must not become another danger to our  
2751 nation's emergency services. And I know that, while AVs are  
2752 being commercially deployed in limited areas -- we have seen  
2753 them in Arlington, Texas, we have seen them in San Francisco  
2754 -- I think the San Francisco Fire Department has already  
2755 logged 66 troubling incidents involving AVs since May 2022,  
2756 including events in which AVs blocked fire engines, entered  
2757 into active emergency scenes, and ran over fire hoses, and  
2758 NHTSA has launched a Federal investigation following over a  
2759 dozen documented cases in which Teslas operating in autopilot  
2760 mode have crashed into first responder vehicles.

2761 Mr. Chairman, I ask unanimous consent to enter into the  
2762 record a letter from the International Association of Fire  
2763 Chiefs and International Association of Firefighters and the  
2764 National Volunteer Fire Council calling on Congress to ensure  
2765 AVs safely interact with first responders.

2766 \*Mr. Bilirakis. Without objection, so ordered.

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2767 [The information follows:]

2768

2769 \*\*\*\*\*COMMITTEE INSERT\*\*\*\*\*

2770



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2771           \*Mr. Veasey. And so my first question is to Dr.  
2772 Koopman. Why are these incidents involving first responders  
2773 occurring?

2774           And is there something we should come to expect as more  
2775 AVs are deployed?

2776           \*Dr. Koopman. There are a couple of reasons, and the  
2777 first responder situation is very troubling.

2778           The first reason is that the engineering safety  
2779 standards that I mentioned before that are in that framework  
2780 tell you, hey, don't forget this. Did you think of this?  
2781 Did you think of this? So you can solve the problems before  
2782 you happen in the real world. And those kind of scenarios  
2783 are already in those standards. So if somebody is following  
2784 the standards, they are not going to have those problems.

2785           But the second issue is, once the problems started  
2786 happening, one of the companies did not stand down operations  
2787 or put a backup driver in the car until they could get it  
2788 straightened out. They just scaled up. So unless that  
2789 changes as there are more cars on the road, we are going to  
2790 keep seeing the problems until they fix it. It hasn't  
2791 happened yet.

2792           \*Mr. Veasey. Yes, interesting. Dr. Koopman, you have

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2793 also stated that autonomous vehicle legislation should  
2794 include rulemakings validating the safety of automated  
2795 driving systems, the software and sensors actually driving  
2796 the cars. How would such rulemaking reduce the likelihood of  
2797 AVs interfering with first responders?

2798 \*Dr. Koopman. As I mentioned, the engineering standards  
2799 already have requirements to deal with emergency responder  
2800 situations. In fact, the Maryland Transportation Authority  
2801 weighed in on the latest version of the standard, and put us  
2802 in contact with emergency responders to make sure we got  
2803 those parts right. So there is a lot of good wisdom in the  
2804 standards. The companies just have to follow them.

2805 \*Mr. Veasey. Thank you very much.

2806 Mr. Chairman, I ask unanimous consent for this letter to  
2807 be entered into the record. It is from the International  
2808 Union of Police Associations, which represent active duty law  
2809 enforcement professionals that are, again, concerned about  
2810 the broad preemption provisions in AV legislation that may  
2811 invalidate laws requiring AVs to yield to emergency response  
2812 vehicles and otherwise operate lawfully in case of emergency.

2813 \*Mr. Bilirakis. Without objection, so ordered.

2814 [The information follows:]

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2815

2816 \*\*\*\*\*COMMITTEE INSERT\*\*\*\*\*

2817

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2818           \*Mr. Veasey. Thank you, Mr. Chairman.

2819           And Dr. Koopman, I also wanted to ask you, could  
2820 preempting state and local laws regarding design,  
2821 construction, and performance of AVs potentially invalidate  
2822 state and local traffic laws requiring AVs to yield to  
2823 emergency vehicles?

2824           \*Dr. Koopman. I think that is a very real risk. And  
2825 the way I look at it is it is completely reasonable for the  
2826 Federal Government to control the equipment that can drive  
2827 the vehicle in various ways. But the states and localities  
2828 need to keep control over the envelopes of the behaviors that  
2829 are permissible.

2830           So, for example, there may be in a fire, an emergency  
2831 response scene, the emergency responders may need the ability  
2832 to make sure that vehicle is 100 percent disabled, and they  
2833 may need to put requirements specific to their unique  
2834 geographic and other population needs. But the Federal  
2835 Government, sure, they should be in charge of making sure the  
2836 equipment obeys whatever the local traffic laws are.

2837           \*Mr. Veasey. Yes, thank you.

2838           \*Dr. Koopman. We don't want preemption to take that  
2839 away from the localities.

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2840           \*Mr. Veasey. I wanted to ask you also -- I know that  
2841 Representative Dingell's bill explicitly saves state and  
2842 local traffic laws, and requires that NHTSA complete a  
2843 ongoing proceeding to establish safety engineering practices  
2844 and standards for computer driver safety. How would these  
2845 requirements help ensure AVs interact safely with first  
2846 responders?

2847           \*Dr. Koopman. Well, the conformance to the standards  
2848 requires the companies to consider various emergency  
2849 responder scenarios with some level of specificity, and make  
2850 sure that they have considered in the safety case -- a safety  
2851 case is a well-reasoned discussion based on evidence why they  
2852 think they are safe. And the safety case has to consider  
2853 emergency response scenes.

2854           And so, if the ANPRM is carried forward, it will invoke  
2855 standards that require considering that during the design of  
2856 these vehicles.

2857           \*Mr. Veasey. Thank you very much.

2858           Mr. Chairman, I yield back. Thank you for allowing me  
2859 to waive on.

2860           \*Mr. Bilirakis. Thank you. I appreciate it. Now I  
2861 will recognize Mr. Obernolte for his five minutes of

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2862 questioning, and I appreciate his patience. Thank you.

2863       \*Mr. Obernolte. Well, thank you very much, Mr.  
2864 Chairman. And I would like to also thank you for allowing me  
2865 to waive on. This is a really critically important topic for  
2866 me. I think the technology that is being developed here is  
2867 going to dramatically change the world for the better. And I  
2868 think it is incumbent on us here in Congress to get it right  
2869 when it comes to regulation.

2870       Dr. Koopman, I am really glad that you are here because  
2871 you said something that really resonated with me. You said  
2872 that the core issue here is public trust. And I completely  
2873 agree with you. And I also appreciate the fact that the  
2874 viewpoint that you are bringing to public trust is one that  
2875 has to be validated by accident data, which I think is  
2876 correct. I think that we demonstrate that public trust is  
2877 merited by the accident data that is generated from the AVs.  
2878 And so I think it is incumbent on us to gather that data.

2879       So I wanted to ask you, the state of the data that we  
2880 have right now, do we have enough data to reach a conclusion  
2881 about whether or not the current generation of AVs is safer  
2882 than human drivers?

2883       \*Dr. Koopman. We are part of the way there, but we are

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2884 not all the way there.

2885           And it is important to note that data only happens after  
2886 you have been operating. And if you want public trust, I  
2887 think you need more than that. You need transparency,  
2888 accountability, and independent oversight. Because in things  
2889 like the 737 MAX crashes, those were what were compromised,  
2890 and that degraded trust.

2891           But to make sure I hit your question, the data we have  
2892 now is about crashes, but it is not about fatalities. It is  
2893 about 100 million miles between fatality in round numbers for  
2894 the U.S. fleet. There is lots of tailoring to do, but we are  
2895 talking 100 million miles. These companies have done one or  
2896 two or three million miles. So it is great that they have a  
2897 mathematical prediction, an estimation. They think they are  
2898 safe enough. That is fantastic to hear. But it can only be  
2899 confirmed by that data you are talking about. And okay, one,  
2900 two, three million miles of data, that is great. Ninety-  
2901 seven more million miles to go before we get to a hundred  
2902 million to see how it turns out.

2903           \*Mr. Obernolte. Right. Well, what about the current  
2904 accident rate for level two-enabled vehicles? Because those,  
2905 you know, have been here for a few years.

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2906           Do we have any data to compare the accident rate for a  
2907 vehicle that is being piloted on level two compared with one  
2908 that is human piloted?

2909           \*Dr. Koopman. That is problematic. The current SGO  
2910 data that was talked about before -- in fact, one of the most  
2911 important uses that has not been mentioned is for the level  
2912 two vehicles, the autopilot-type crashes. We are seeing lots  
2913 of fatalities. We have seen lots of crashes. But the SGO  
2914 does not require enough mileage reporting. So we know how  
2915 many crashes, we don't know how many miles with the feature  
2916 enabled. So we can't do the division to compare it to human  
2917 drivers. So that is -- now, there have been studies done,  
2918 there have been claims made. Most of the claims made have  
2919 also been debunked. So it is hard to say.

2920           What I have seen so far is there is no data showing that  
2921 automated steering improves safety. It is a convenience  
2922 feature. There is data showing newer cars are safer, but it  
2923 is not the automated steering, it is the automatic emergency  
2924 braking. And really, if I had a limited bucket of money to  
2925 spend on improving highway safety, I would spend it on the  
2926 automated -- the active safety features because it is a lot  
2927 more bang for the buck than fully automated driving.



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2928           \*Mr. Obernolte. I think context probably matters, too.  
2929 I mean, it is not -- from a non-empirical standpoint, it is  
2930 hard to imagine that a car on a highway being driven with  
2931 level two technology and a human monitoring is not safer,  
2932 substantially, than one that doesn't have that technology  
2933 available because you do away with things like distracted  
2934 driving, you do away with things like drunk driving, falling  
2935 asleep, you know?

2936           But as you say, we don't have the data.

2937           \*Dr. Koopman. Well, you would think that, but it is not  
2938 true. National Transportation Safety Board says that you  
2939 invoke automation complacency, which counterbalances it. So  
2940 there is no clear reason why it should be safer. Humans are  
2941 terrible at supervising automation.

2942           \*Mr. Obernolte. Well --

2943           \*Dr. Koopman. They are terrible.

2944           \*Mr. Obernolte. We won't know until we have the data.

2945           Mr. Bozzella, in this conversation that Dr. Koopman and  
2946 I have been having, I mean, we are talking about this issue  
2947 of public trust. And we already have a perceptual problem,  
2948 which you brought up in your testimony, with public trust  
2949 because we might have tens of thousands of auto accidents

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2950 across the country in any given day, but if one Tesla on  
2951 autopilot gets in an accident on the opposite side of the  
2952 country, it is front page news.

2953           So what do we do with this issue of public trust?  
2954 Because this is not going to go away. This is going to get  
2955 worse because we are -- I mean, perfection is the goal here,  
2956 but we are not going to have perfection. It is always  
2957 pursued, never achieved.

2958           \*Mr. Bozzella. Yes.

2959           \*Mr. Obernolte. How do we establish this trust?

2960           \*Mr. Bozzella. Trust is absolutely essential. If the  
2961 technology is not trusted, we can't produce these benefits.  
2962 You are 100 percent right.

2963           I want to make sure that we distinguish, however,  
2964 between automated -- autonomous vehicle technology that this  
2965 committee is talking about, which is level three, four, or  
2966 five, and assistance technology, which is level two. There  
2967 is a bright line. In every case, a level two vehicle, the  
2968 driver must always be engaged in the driving task. And so  
2969 there is a significant difference between those two  
2970 technologies and between those data sets.

2971           And unfortunately, I think what it will take with the

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2972 level two technology is a combination of things: education,  
2973 but also companies making sure that they express limitations  
2974 of the technology, as well as the benefits, and that we work  
2975 on things like driver monitoring and human engagement. And  
2976 that is in the infrastructure bill, for example, that was  
2977 passed on a bipartisan basis. These are things that we need  
2978 to continue to work on.

2979 \*Mr. Obernolte. I agree. Well, I am out of time.

2980 \*Mr. Bozzella. I am sorry. Thank you.

2981 \*Mr. Obernolte. Let me just point out, though, that, I  
2982 mean, we need to have a dialogue about the metric. And the  
2983 metric ought to be if AVs are substantially safer than a  
2984 human vehicle, then they are beneficial, regardless of the  
2985 fact that they will still be causing accidents and  
2986 fatalities. And that is what we need to communicate to the  
2987 public.

2988 \*Mr. Bozzella. I agree.

2989 \*Mr. Obernolte. And frankly, I mean, that is a huge  
2990 barrier, because the public is not going to be receptive to  
2991 that message.

2992 \*Mr. Bozzella. Agreed.

2993 \*Mr. Obernolte. Anyway, I want to thank everyone for

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2994 your testimony. I apologize for running over, Mr. Chairman.

2995 \*Mr. Bozzella. Thank you.

2996 \*Mr. Bilirakis. All right. Very informative. I  
2997 appreciate it very much.

2998 I think we are pretty much finished. I tell you, this  
2999 was a tremendous hearing, as far as I am concerned, extremely  
3000 informative.

3001 If somebody wants to comment on this -- and I will let  
3002 Jan also, if she wants to ask a question or make a statement  
3003 -- what about affordability?

3004 You know, we talk about access for persons with  
3005 disabilities, seniors, what have you. I know that the EVs  
3006 are available, but they are -- in some cases, the average  
3007 person -- they are too expensive. What about affordability?  
3008 Is that an issue? Do we need to explore that even more? Do  
3009 you have any opinions on that? Yes, go ahead.

3010 \*Mr. Shapiro. Yes, I have opinions. Having watched new  
3011 technology be introduced for four decades now, it starts out  
3012 expensive, and rapidly goes down with competition. So the  
3013 initial introductions of the first cars -- because there will  
3014 be high demand -- will be more expensive.

3015 On the positive side, especially if you don't have the

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3016 driver requirement, you take a lot of cost out of the bill --  
3017 out of the vehicle. So I think there will be a balance  
3018 there.

3019           And in terms of the battery required for an electric  
3020 car, to the extent it is lighter, you need less of a battery.  
3021 Or you could have the same size battery and get, obviously,  
3022 further distance. They are all -- they are physical trade-  
3023 offs.

3024           If the insurance companies respond, it will be lower  
3025 insurance costs for a self-driving vehicle. But there will  
3026 be a transition period. There is a question of trust. The  
3027 congressman is right about -- public education is really  
3028 important.

3029           \*Mr. Bilirakis. Yes.

3030           \*Mr. Shapiro. So I think that, you know, obviously, we  
3031 represent competitors. We are an association. So talking  
3032 about price is what we usually avoid. But in terms of the  
3033 inputs and the cost and how things operate in a normal  
3034 introduction environment, every new product that is great and  
3035 cool, whether it is high definition television or a faster  
3036 computer or video game, costs a lot more because the early  
3037 adopters pay the most money.

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3038 \*Mr. Bilirakis. Thank you.

3039 Does anyone else want to comment on that?

3040 \*Mr. Bozzella. Yes, I would just add I agree with what  
3041 Mr. Shapiro said completely. I would just add that the  
3042 supply chain and manufacturing here in the United States  
3043 aspect, that is really important, and that is an essential  
3044 ingredient to the legislation.

3045 If we design here, and we build here, and we have supply  
3046 chains here, that will help address some of the affordability  
3047 challenges that we face. And so this gives us the  
3048 opportunity to control our destiny, this legislation.

3049 \*Mr. Bilirakis. All right. Very good, I appreciate --

3050 \*Mr. Shapiro. I have something to add, as well, which  
3051 is I agree completely. This is all about getting scale. But  
3052 I think we are not going to get scale until we get safety and  
3053 reliability. We need to have those, too.

3054 \*Mr. Bilirakis. Very good. So do you want to comment  
3055 with regard to the affordability?

3056 \*Mr. Riccobono. Well, I will take my chance. One thing  
3057 I would add to this is that this also affords an opportunity  
3058 for innovative transportation models. And if you think about  
3059 people with disabilities, and also what has happened with

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3060 rideshare, we can see that these automated vehicles present  
3061 new ways to present public transportation, paratransit  
3062 service, limited transportation in certain areas like health  
3063 care.

3064           So that also, although it may be expensive, affords new  
3065 transportation opportunities. And there is a tremendous  
3066 benefit on the other side of that cost.

3067           \*Mr. Bilirakis. Very good. I appreciate that very  
3068 much.

3069           Jan, do you have anything to add?

3070           \*Ms. Schakowsky. I just really wanted to thank our  
3071 panel for the wonderful conversation.

3072           Mr. Riccobono, I didn't ask you questions or talk to  
3073 you, but I wanted to tell you how especially much I  
3074 appreciate you being just an incredibly articulate and  
3075 effective spokesperson for the blind community, the needs  
3076 that you have and the hopes that you have for this  
3077 technology.

3078           All of us are hoping for the best and, I believe,  
3079 committed to work together on both sides of the aisle.

3080           Again, a special thank you to Debbie Dingell for all the  
3081 work that she has put in over the many years.

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3082           And I do also believe that the devil is in the details.  
3083 We want to get it right. And I look forward to being part of  
3084 that, and participating with all of you. Thank you.

3085           \*Mr. Bilirakis. Thank you. I appreciate it very much.

3086           Let me remind Mr. Koopman that the City of Pittsburgh --  
3087 you mentioned the City of Pittsburgh -- is the city of  
3088 innovation and technology, that is for sure. So let's work  
3089 together and get this done for the American people. I  
3090 appreciate it very much.

3091           Let's see what else I have here.

3092           I ask unanimous consent that the documents on the staff  
3093 document list be submitted for the record.

3094           Without objection, so ordered.

3095           [The information follows:]

3096

3097           \*\*\*\*\*COMMITTEE INSERT\*\*\*\*\*

3098



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3099           \*Mr. Bilirakis. I remind members that they have 10  
3100 business days to submit questions for the record, and I ask  
3101 the witnesses to respond to the questions promptly. Members  
3102 should submit their questions by the close of business on  
3103 August 9. I know I will.

3104           So without objection, the subcommittee is adjourned.

3105           [Whereupon, at 1:09 p.m., the subcommittee was  
3106 adjourned.]