



**Remarks by IIHS President David Harkey  
Expert panel on autonomous vehicle safety  
Virtual Capitol Hill briefing  
March 7, 2023**

Thank you for the opportunity to be here today and share the perspective of the Insurance Institute for Highway Safety on the topic of automated vehicles, and more broadly, vehicle safety technology.

IIHS was founded in 1959 and has a long history of road safety research and evaluation. In the early 1990s, we began rating vehicles with respect to their ability to protect occupants in a crash. The number of tests has expanded through the years and have resulted in much safer vehicles over time. In 2016, we began including crash prevention technologies as part of our ratings program. Again, automakers have responded, and we now have more vehicles in the fleet with more advanced collision avoidance technology.

We firmly believe in technology for vehicle safety and the potential it has to reduce the tragic toll on our roadways. But I want to be clear about where we see the greatest benefits for vehicle safety technology. We support the continued evolution of technology to assist drivers in the driving task. We believe it is critical for the driver to remain engaged in the driving task at all times and always be responsible for all actions of the vehicle. We do not believe in the promise of technology to completely replace drivers and for the vehicle to assume all responsibility for vehicle operations.

With that in mind, I want to share with you what we have learned to date about vehicle technology, starting with advanced driver assistance systems. First up: front crash prevention systems. We know that forward collision warning systems reduce vehicle-to-vehicle inline crashes by 27 percent. Add automatic emergency braking, and these types of crashes are reduced by 50 percent.

In addition to being a requirement for automakers to qualify for our *TOP SAFETY PICK* award, the real motivator for most automakers to add this technology was the commitment that IIHS brokered with the National Highway Traffic Safety Administration (NHTSA) and the auto industry in 2016 to get automatic emergency braking on nearly all passenger vehicles sold in the U.S. market. That commitment has largely been fulfilled.

The next logical step for this technology was to address pedestrian crashes. Again, we have found these systems to be highly effective, reducing pedestrian crashes by 27 percent. That's a great number and is moving in the right direction to address the rapidly increasing number of pedestrian deaths on our roads, but it's not enough.

What we have discovered is that these systems perform much better in the day than at night — 84 percent achieve our better ratings in daytime conditions, while only 47 percent do so under nighttime conditions.

This is important because while most pedestrian crashes occur during the day, most pedestrian fatalities (75 percent) occur in dark or low-light conditions. This is why we included nighttime front crash prevention system performance in our *TOP SAFETY PICK* criteria for 2023 models.

While on the topic of nighttime safety, another technology that we evaluate and include in our award criteria is headlights. Why? Americans do about a quarter of our driving at night, yet that is when half our fatalities occur. IIHS is the only group in the world performing this test. We evaluate visibility for the driver and excessive glare for oncoming drivers on straight and curved sections of road. Over the past half-dozen years of testing, we have seen

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automakers improve the visibility metrics while decreasing glare. We have also been able to evaluate crashes and determine that vehicles with good-rated headlights are 19 percent less likely to be involved in nighttime single-vehicle crashes compared with vehicles with poor-rated headlights.

I want to transition to the next level of driver assistance, sometimes referred to as Level 2 in the SAE nomenclature. We have termed this level of assistance partial driving automation because the vehicle can indeed combine the ability of throttle control (acceleration/braking) and steering (lane keeping). It is important to note, however, that the driver must still be engaged in the driving task at all times even if the vehicle doesn't require hands on the steering wheel.

In observational studies, we have found that drivers using these systems tend to drive faster, look away from the road more frequently and for longer periods of time, and engage in more distracting behaviors.

It is clear to us that some of the convenience of not paying attention to the driving task can lull some drivers into a false sense of security or create complacency.

In some cases, drivers incorrectly interpret the ability of these partial automation systems as fully autonomous or self-driving, even though the automakers may warn (through manuals or other means) that these systems are not designed to replace the driver.

The result of this complacency and inattention can sometimes be tragic. And of course, it does not help to convey misinformation to consumers through the use of names such as Autopilot and Full Self Driving.

Currently, there are no regulations on how these systems should be designed and implemented to ensure that the driver is engaged in the safe operation of the vehicle. Thus, we have developed safeguard ratings for these partial driving automation vehicles to help consumers understand what safety features or components are on specific vehicles. These ratings, like our other crashworthiness and crash prevention ratings, will also encourage automakers to implement these systems in a way to ensure driver engagement. We will release our first set of rated vehicles later this year.

I want to close with two points. First, vehicle technology alone is not going to be the single solution to prevent all fatalities on our roads. We have to address other parts of our roadway system, including the design and operation of the infrastructure and better interventions to address inappropriate behaviors. This is why we are in full support of the U.S. Department of Transportation's National Roadway Safety Strategy to adopt a Safe System approach and apply systems thinking to our road safety challenges. IIHS has signed onto the action plan with a set of initiatives that we deem most important to save lives on our roads.

Second, we need to focus our efforts to implement and use technology, both within and outside the vehicle, not on driver replacement strategies, but traveler assistance strategies (including motorists, pedestrians, and bicyclists). We have technology today that can dramatically reduce the 10,000 lives that are lost annually as a result of speeding, the 13,000 lives lost annually that involve alcohol impairment, and the almost 5,000 lives lost annually due to not wearing a seat belt.

Technology is an important part of the solution, but we need to strive for interventions that will save lives today. That's the mission of IIHS — saving lives and preventing harm now!

Thank you again for the opportunity to speak to you today.

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