Vol. 25, Number 1

NATIONAL TRAFFIC LAW CENTER

Between the Lines

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Autonomous Vehicles: Technology Driving Legal Change

Who is responsible for a fatal crash when no one is "driving"?

With the increasing number of automated vehicles on the roads, the likelihood that one transporting an impaired person will crash and kill someone is almost inevitable. In Florida, the occupant of a self-driving Tesla was killed while utilizing the auto-pilot feature of the car.[1] The Tesla failed to brake and crashed into a truck that turned in front of it. An investigation by the National Transportation Safety Board revealed evidence of a movie playing in the vehicle while it was operating autonomously and neither the person nor the Tesla saw the truck.[2] The person who was killed in that crash was the occupant of the Tesla. Despite this and other incidents, technology companies and auto manufacturers are moving forward and developing more advanced automated vehicle technology that requires little or no human interaction.[3] Additional technology and advancements may further reduce or even eliminate human interaction or operation. This may have a positive effect on reducing fatalities since human error is the "critical reason" for crashes roughly 94 percent of the time.[4] Removing the human driving element, therefore, may help us move toward zero deaths. But should an impaired person in an automated vehicle not have any responsibility for someone else's death?

Generally, legal discussions regarding automated vehicles focus on products liability and civil negligence. While these discussions should continue, monetary damages may not bring justice to the parents of an innocent child killed in a preventable traffic crash. For there to be criminal responsibility, however, prosecutors must determine whether the person watching the movie in the Tesla crash, for example, was "driving" or "operating" the vehicle.[5] California and Nevada are leading the nation when it comes to laws regarding automated vehicles, but even those states require a person to drive or operate the vehicle for a vehicular homicide.[6]

The National Highway Traffic Safety Administration (NHTSA) defines an automated vehicle as one in which "at least some aspects of a safety-critical control function occur without direct driver input."[7] NHTSA's Federal Automated Vehicles Policy describes the classification levels of vehicle automation based upon what the human driver does and when he or she does it. The levels are described as follows:

- Level 0, the human driver does everything;
- Level 1, an automated system on the vehicle can sometimes assist the human driver conduct some parts of the driving task;
- Level 2, an automated system on the vehicle can actually conduct some parts of the driving task, while the human continues to monitor the driving environment and performs the rest of the driving task;
- Level 3, an automated system can both actually conduct some parts of the driving

task and monitor the driving environment in some instances, but the human driver must be ready to take back control when the automated system requests;

- Level 4, an automated system can conduct the driving task and monitor the driving environment, and the human need not take back control, but the automated system can operate only in certain environments and under certain conditions; and

- Level 5, the automated system can perform all driving tasks, under all conditions that a human could perform.[8]

Currently, vehicles on the road must include Level 1 automation. Automakers have begun to include Level 2 systems in vehicles currently in production. Some automakers have also expressed their plans to produce Level 3 or 4 vehicles that will be ready for the market by 2020.[9]

Currently, automated vehicles are "not a way for people who are under the influence to get home and one shouldn't even be suggesting that it is."[10] Recently in Germany, a bus crashed with a Tesla utilizing its self-driving technology. Preliminarily, it appears that the technology in the Tesla was operating correctly but was unable to adjust for the unpredictable maneuvering of the bus.[11]

As manufacturers introduce new automated technologies, traffic safety professionals must ensure that existing vehicular homicide and impaired driving laws encompass these changes. How a jurisdiction defines driving or operation affects the prosecutors' ability to hold impaired persons in automated vehicles responsible. Because jurisdictions vary, there is no singular definition of driving.[12] Generally, however, it requires a driver to be in "actual physical control" of the vehicle.[13] In a Level 3 vehicle, the computer controls a majority of the vehicle's actions but a human driver must still be able to exercise manual control over it. Under current laws of most jurisdictions, a case involving impaired driving or vehicular homicide may depend on whether the occupant exercised manual control at the time of the crash. A different problem exists in a situation involving a Level 4 vehicle where the only occupant-involved action is simply turning on the car's ignition. In that case, the definition of "driving" or "operating" must include more than active or manual control.

Most jurisdictions defined driving and operation for impaired driving and vehicular homicide purposes well before automated vehicle technology existed. Nevertheless, California has enacted legislation that includes a broad definition of operator that may be applied to impaired driving and vehicular homicide cases. In California, an "operator" of an automated vehicle is "the person who is seated in the driver's seat, or, if there is no person in the driver's seat, causes the autonomous technology to engage."[14] A prosecutor should argue that the "causes the autonomous technology to engage" applies regardless whether there is "no person in the driver's seat." In other words, if a person is in the driver's seat and engages the technology, then he should be considered an "operator" as well as a person who sits in the passenger seat.[15] Also, in California the law will likely require automated vehicle operators to possess a special certificate and those operators will be held responsible for violating any traffic laws during the operation of a vehicle.[16]

Because automated vehicle technology is rapidly advancing, the definition and use of driving and operation in all jurisdictions must be analyzed in the context of impaired driving and vehicular homicide statutes and case law. A few jurisdictions have enacted statutes and some have bills pending to provide guidance pertaining to automated vehicles but none of the laws or bills is focused solely on criminal responsibility.[17] The determination of criminal responsibility should be evaluated by law enforcement. For law enforcement to be able to evaluate all the facts and circumstances surrounding a vehicular homicide based on impaired driving or otherwise, a broad definition of driving or operation should include "causing the autonomous technology to engage."

Note: This article was written and edited by members of the National Traffic Law Center (NTLC). Members of the National District Attorney Association's NTLC serve as resources for prosecutors, judges, law enforcement officers, and others in the traffic safety community. The mission of NTLC is to improve the quality of justice in traffic safety adjudications by increasing the awareness of highway safety issues through the compilation, creation, and dissemination of legal and technical information, and by providing training and reference services.

Endnotes

1 Bill Vlasic and Nel E. Boudette, *Self-Driving Tesla Was Involved in Fatal Crash, U.S. Says*, N.Y. Times, June 30, 2016, *available at* http://mobile.nytimes.com/2016/07/01/business/self-driving-tesla-fatal-crash-investigation.html (last visited Oct. 4, 2016).

2 Will Oremus, *The Tesla Autopilot Crash Victim Was Apparently Watching a Movie When He Died*, Slate, July 1, 2016, 7:43 PM, http://www.slate.com/blogs/moneybox/2016/07/01/tesla_autopilot_crash_victim_joshua_brown_was_watching_a_movie_when_he_died.html (last visited Oct. 4, 2016).

3 Danielle Muoio, *Here are All the Companies Racing to Put Driverless Cars on the Road by 2020*, Tech Insider, Apr. 7, 2016, 2:53 PM, http://www.techinsider.io/google-apple-tesla-race-to-develop-self-driving-cars-by-2020-2016-4 (last visited Oct. 4, 2016).

4 Singh, S., *Critical Reasons for Crashes Investigated in the National Motor Vehicle Crash Causation Survey*, Washington, DC: National Highway Traffic Safety Administration, Traffic Safety Facts Crash Stats Report No. DOT HS 812 115 (Feb. 2015).

5 *See e.g.*, F.S.A. § 782.071 (Vehicular homicide); F.S.A. § 316.193 (Driving under the influence); *see also Cahours v. State*, 147 So. 3d 574 (2014) (holding that reckless behavior is needed to prove vehicular homicide); *D.E. v. State*, 904 So. 2d 558 (Fla. 5th DCA 2005) (holding that the crime of vehicular homicide cannot be proved without also proving the elements of reckless driving).

6 *See e.g.*, Cal Pen Code § 192 (Manslaughter); 11 Del. C. § 630A (Vehicular homicide in the first degree).

7 Automated Vehicles, National Highway Traffic and Safety Administration, http://www.nhtsa.gov/Research/Crash+Avoidance/Automated+Vehicles (last visited Oct. 3, 2016).

8 Federal Automated Vehicles Policy, National Highway Traffic and Safety Administration, Sep. 19, 2016, *available at* https://www.transportation.gov/AV (last visited Oct. 4, 2016).

9 *See supra* n. 3.

10 As explained by the Princeton Autonomous Vehicle Engineering Team. Michael Hill, *DOT Issues Safety Checklist for Self-Driving Cars*, NJTV News, Sep. 20, 2016, http://www.njtvonline.org/news/video/dot-issues-safety-checklist-self-driving-cars/ (last visited Oct. 4, 2016).

11 *Tesla Says Autopilot Not to Blame in Crash With Bus in Germany*, CNBC, Sep. 30, 2016, http://www.cnbc.com/2016/09/30/tesla-says-autopilot-not-to-blame-in-crash-with-bus-in-germany.html (last visited Oct. 4, 2016).

12 *See* Patricia C. Kussmann, Annotation, *What Constitutes Driving, Operating, or Being in Control of Motor Vehicle for Purposes of Driving While Intoxicated Statute, Regulation, or Ordinance -- Being in Physical Control or Actual Physical Control -- General Principles*, 92 A.L.R.6th 295 (2016). "Some courts have required both the means to operate a vehicle as well as proximity to the vehicle (§ 14). Some definitions focus on a motorist's position behind the wheel plus either the possession of the vehicle's key (§ 15) or the key actually in the ignition (§ 16). Others have described actual physical control as constituting both the control of a vehicle combined with an intent to drive (§ 17) while others consider it to consist only of a driver's presence plus some other circumstance indicating control."

13 *See e.g.*, *Poling v. State*, 156 Ind. App. 145 (Ind. Ct. App. 1973); *State v. Storrs*, 105 Vt. 180 (Vt. 1933); *People v. Marriott*, 37 App. Div. 2d 868 (N.Y. App. Div. 3d Dep't. 1971); *People v. Domagala*, 123 Misc. 757 (N.Y. County Ct. 1924).

14 Cal. Veh. Code § 38750 (a) (4) (2015).

15 It should be noted that California currently allows the operation of automated vehicles "on public roads for testing purposes by a driver who possesses the proper class of license for the type of vehicle being operated [. . .]," and only allows them to be tested provided the manufacturer ensures that "[t]he driver shall be seated in the driver's seat, monitoring the safe operation of the autonomous vehicle, and capable of taking over immediate manual control of the autonomous vehicle in the event of an autonomous technology failure or other emergency." The law also requires that manufacturers include a mechanism that would allow an operator to disable the vehicle's automated systems, as well as alert a driver if the technology fails, requiring the driver to either take control or cause the car to come to a stop. Cal. Veh. Code § 38750 (2015). California's law also directed the Department of Motor Vehicles to draft regulations pertaining to automated vehicles, and those regulations are currently under review. Cal. Dep't of Vehicles, Deployment of Autonomous Vehicles for Public Operation, https://www.dmv.ca.gov/portal/dmv/detail/vr/autonomous/auto (last visited Oct. 4, 2016).

16 *See supra* n. 14.

17 Gabriel Weiner and Bryant Walker Smith, *Automated Driving: Legislative and Regulatory Action*, cyberlaw.stanford.edu/wiki/index.php/Automated_Driving:_Legislative_and_Regulatory_Action (last updated Sep. 20, 2016).

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The National Traffic Law Center is a program of the National District Attorneys Association. This document was prepared under Cooperative Agreement Number DTNH22-13-H-00434 from the U. S. Department of Transportation National Highway Traffic Safety Administration and Grant Number FM-CDL-0140-13-01-00 from the U.S. Department of Transportation Federal Motor Carrier Safety Administration. Points of view or opinions in this document are those of the authors and do not necessarily represent the official positions or policies of the Department of Transportation or the National District Attorneys Association.