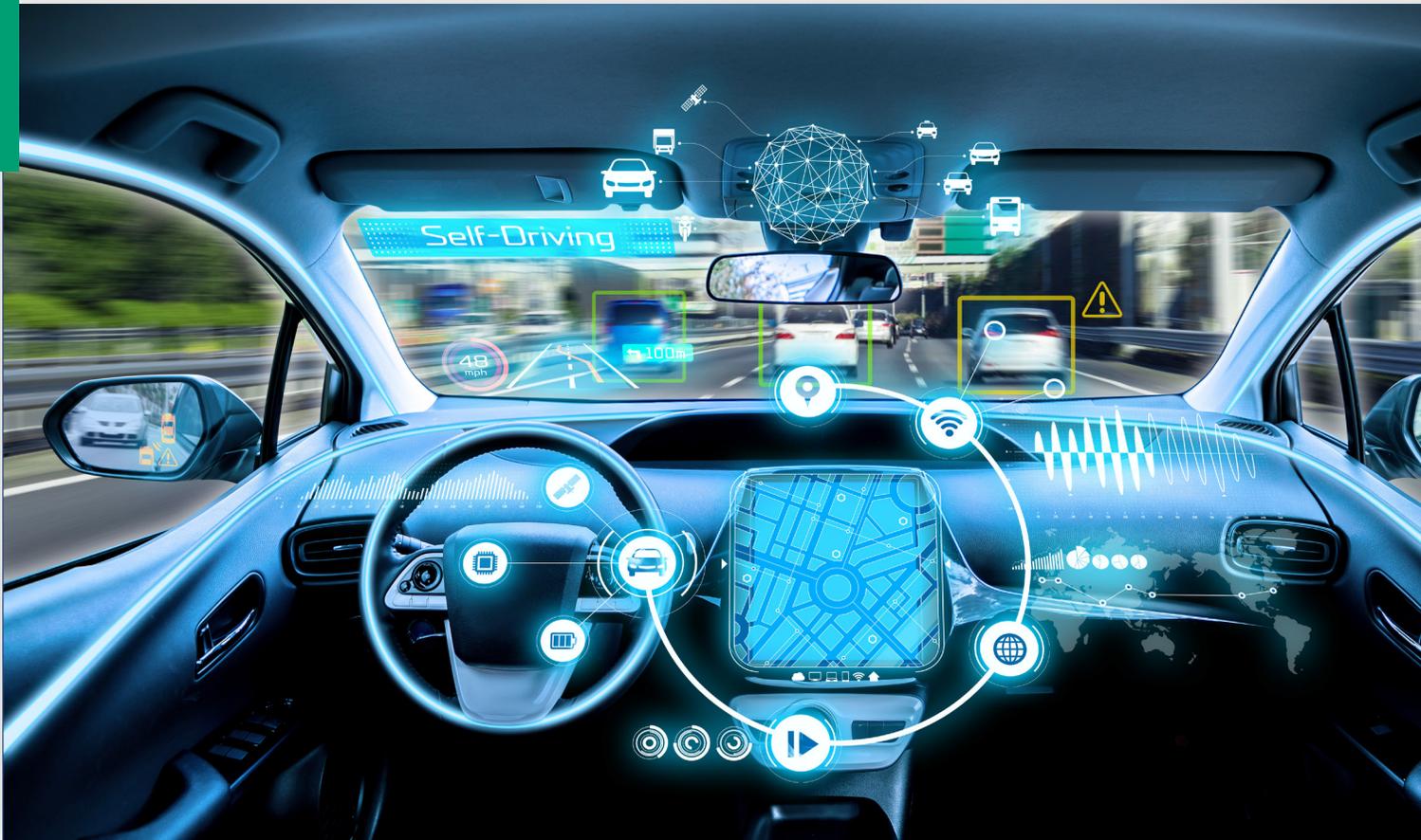


# AUTONOMOUS VEHICLES



## LEGAL CONSIDERATIONS OF THE NEW HUMAN DRIVING EXPERIENCE

BY ISMAIL AMIN, ESQ.

**Ladies and gentlemen, the future has arrived. Autonomous vehicle technologies have begun to change our fundamental perception of the human driving experience.**

Believe it or not, artificial intelligence technology (AI) has been utilized in automobiles for at least 50 years. From cruise control to built-in Wi-Fi and GPS capabilities, the reality of achieving a fully autonomous vehicle was inevitable. Though the progress of the autonomous vehicle has become a pivotal focus in today's technology community, the studying and testing of such capabilities can be dated back to 1979.<sup>1</sup> With trial and error, and continued technological advancements, automotive engineers have been able to develop sophisticated sensor systems

and problem-solving capabilities, such as pre-collision and lane assist systems.

But what is an autonomous vehicle? As vehicles vary in different levels of automation driving systems, the U.S. Department of Transportation's National Highway Traffic Safety Administration (NHTSA) categorizes vehicles as having one of six levels of automation:<sup>2</sup>

- **Level 0, No Automation:** The human driver does all the driving.
- **Level 1, Driver Assistance:** An advanced driver assistance system (ADAS), located within the vehicle, can sometimes assist the human driver with either steering or braking/accelerating, but not both simultaneously.



- **Level 2, Partial Automation:** An ADAS system exists, through which the vehicle can itself actually control both steering and braking/accelerating simultaneously under some circumstances. The human driver must continue to pay full attention (monitoring the driving environment) at all times and perform the rest of the driving tasks.
- **Level 3, Conditional Automation:** An Automated Driving System (ADS) within the vehicle can itself perform all aspects of the driving task under some circumstances. In those circumstances, the human driver must be ready to take back control at any time when the ADS requests the human driver to do so. In all other circumstances, the human driver performs the driving task.
- **Level 4, High Automation:** An ADS system within the vehicle can perform all driving tasks itself and monitor the driving environment – essentially, do all the driving – in certain circumstances. The human need not pay attention in those circumstances.
- **Level 5, Full Automation:** An ADS System within the vehicle can do all the driving in all circumstances. The human occupants are just passengers and need never be involved in driving.

## Nevada's Role in Autonomous Vehicle Regulation

In 2011, Nevada became the first state in the country to license autonomous vehicles. In what was considered forward-thinking legislation and later codified as NRS 482A, Assembly Bill 511 simply required owners of autonomous vehicles to have a specific endorsement on their driver's license indicating their abilities to operate these vehicles in the state. It also gave the Department of Motor Vehicles power to regulate autonomous vehicles tested on the state's highways.<sup>3</sup> In 2012, following Assembly Bill 511's passage, the Nevada Department of Motor Vehicles required an endorsed person to be physically present in an autonomous vehicle during testing. Additionally, Google acquired the nation's first autonomous vehicle license for its Nevada-based test fleet.<sup>4</sup> This gave Nevada an initial lead and foothold in the autonomous vehicle industry.

In 2015, Senate Bill 313 passed, mirroring Florida's insurance requirement for autonomous vehicles and released automobile manufacturers from liability if a third party converted or modified an autonomous vehicle.<sup>5</sup> In 2017, the Nevada Legislature passed AB 68 and AB 69 to clean up its current statutory scheme and to clarify Nevada law regarding autonomous vehicles.<sup>6</sup>

As of now, 33 states have accommodated self-driving vehicles on public roads.<sup>7</sup>

## Federal Treatment of Autonomous Vehicles

As different countries join the autonomous vehicle race, the U.S. has attempted to enact consistent laws and regulations throughout the nation to legislate autonomous vehicle research, testing and distribution to consumers. In 2017, 15 bipartisan bills were introduced to Congress: 14 House bills and one Senate bill. The Self-Drive Act, the main House bill, passed unanimously in committee in September 2017. If passed, the law would:

- Grant the National Highway Traffic Safety Administration authority and responsibility over highly automated vehicles;
- Provide safety measures for highly automated vehicles;
- Establish cybersecurity for highly automated vehicles;
- Address testing and evaluation, and provide that such information should be available to prospective buyers;
- Create a Highly Automated Vehicle Advisory Council, that would research and advise the Secretary of the Department of Transportation on issues of automated vehicles and automated driving systems;
- Require a rear-seat occupant alert system and a privacy plan for information that may be acquired by the vehicle itself; and
- Specifically preempt any state or local law and regulation regarding autonomous vehicles.<sup>8</sup>

At the time of this writing, there were 13 bills referred to the Subcommittee on Digital Commerce and Consumer Protection that were expected to be introduced on the House floor by the end of summer 2018.

## Confidence, Safety and Liability: The Concerns and Benefits of Autonomous Vehicles

It is recognized and undisputed that a predominant portion of all automotive accidents (approximately 94 percent of all accidents) are caused by human mistakes or failure.<sup>9</sup> Governments that push for autonomous vehicle research and testing believe autonomous vehicles will reduce the number of accidents substantially because, by removing the human involvement from the actual act of driving, it would reduce the number of accidents caused by human error. However, as you may know, autonomous vehicle operations have had their own share of unwelcome headlines. For instance, Uber and Tesla were involved in a crash that caused the death of a pedestrian in Tempe, Arizona, when the car was in self-drive mode. One of Waymo's self-driving vans was involved in a collision in spring 2018. And in 2016, Las Vegas started a pilot program that featured a driverless shuttle bus in downtown Las Vegas, and that shuttle was in an accident during its first day of operation.<sup>10</sup> The

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delivery driver was at fault in that accident, but that fact does not change the public and legal concerns regarding what to do when one is involved in an accident with an autonomous vehicle.

However, according to NHTSA, autonomous vehicles would not only eliminate human error, they would also be more convenient and efficient. Because of advanced automotive technology, traffic congestion could be reduced and could potentially free up as much as 50 minutes per day. They would also give new mobility options to those who have trouble with transportation, such as senior citizens and the disabled.

In 2015, Lux Research estimated that the autonomous vehicle industry could be worth \$87 billion by 2030. The monetary growth also has legislators and tech companies focused on pioneering the automotive car industry. With a fleet



of autonomous taxis, Goldman Sachs Group, Inc. predicts the business growth to increase from \$5 billion in revenue to \$285 billion by 2030.

Though many are excited with the potential of the industry, there are considerable headwinds. First, there are numerous safety concerns regarding whether a vehicle can truly drive

itself. Second, the general public seems to lack confidence in a machine's ability to operate itself. Finally, if an accident were to occur, who (or what) would be liable? These questions and concerns are profound and must be considered by legislators, courts, lawyers, insurers, regulators, software engineers and car-manufacturers alike. Teaching a youngster how to drive may never be the same again. **NL**

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