



Defending the First Wave

By Zach Matthews
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Now is the time to begin a national dialogue about potential future trends to avoid a strict product liability scheme for autonomous vehicles and the entire transportation industry.



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Autonomous Trucking and the Death of Driver Negligence?

As of the end of summer 2015, Google had 23 self-driving, autonomous cars operating on Californian highways, some of the busiest roads in the nation. Collectively, these vehicles will soon have logged more than one million miles

of road travel. So far they have been involved in 11 accidents, none of which, according to Google, were the fault of the computer software (dubbed “Chauffeur”). In anticipation of the widespread adoption of automated vehicle (AV) technology, at least seven states and the District of Columbia have passed legislation permitting some form of operation of AVs on their roads, and 15 more states have considered but not yet passed similar legislation.

The effect of AV technology on the commercial trucking sector will be profound. If Chauffeur were an ordinary truck driver, instead of a collection of lines of code, it would soon be eligible for membership in the coveted Million Mile Club, which recognizes those drivers who have traveled that distance while remaining accident free. Million mile drivers are honored because they are so rare, but Chauffeur and its descendants will be manufactured and replicated on demand.

Adopting AV features is nothing new for trucking companies. Trucking manufacturers and transportation companies have

been experimenting with varying degrees of automated technology for some time, from the motion-sensing Maven headset now worn by some drivers to more familiar accident-avoidance features such as front-crash prevention systems. Daimler recently made a major step forward, however, becoming the first manufacturer to integrate full AV technology into a tractor. In May of 2015, this vehicle was cleared by the Nevada Department of Motor Vehicles to operate on that state’s highways, and road testing is currently underway.

Despite these developments, industry experts agree that for the foreseeable future the term “driverless truck” will be a misnomer. They point to essential tasks that must be performed by a human, including checking and securing of loads in transit and interacting with law enforcement. “The truck is not going to be driverless,” explains Mark Davis, Director of Claims at Aon Truck Group. “It will have the ability to get itself down the road, maintain safe distance from the vehicle in front of it, and maintain its lane of travel. It will be on autopilot. Planes do that

already.” Daimler Trucks’ chief engineer on its project, Al Pearson, agrees: Daimler’s autonomous truck will have an “attentive driver” present at all times, he says. The software, however, will handle the bulk of the actual driving, in an effort to combat driver distraction and fatigue.

For now, advocacy groups for commercial truck drivers appear to agree that their

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drivers have an indispensable role, and they are not worried that automation will replace human drivers. According to Kara Deniz of the International Brotherhood of Teamsters, “there will always be changes and developments in technology impacting industry. But we don’t see a major threat posed by driverless vehicles at this time, since our members have the specialized skills and training to oversee the operation of vehicles to ensure their safe operations.” She adds that the Teamsters are, of course, keeping up with the technology and assessing its future effect on the industry.

In less than 10 years, autonomous vehicles have gone from long-range hypotheticals, to amusing science projects, to an area of major corporate (and military) interest. Within the next 10 years they will begin an inexorable and probably swift rise to ubiquity. The reasons for this are clear: automobile accidents in the United States take a large toll, resulting in 33,000 deaths and over 2.3 million injuries annually, with a total economic impact of \$871 billion per year, or about \$900 for every person in the United States. Ninety percent of these accidents are caused by human error. Imagine, then, the safety benefits of taking the human out of the equation.

The potential ramifications of this technology go far beyond improved safety, however. AVs will not have to be paid a salary or

offered any benefits. An AV will never need to be disciplined, cannot have a bad day, and cannot quit its job. AVs would (in theory) not be subject to hours-of-service regulations, and the ability to drive nonstop potentially would allow them to optimize travel speeds for maximum fuel efficiency. A road full of autonomous trucks communicating wirelessly with one another would also save fuel by greatly decreasing the frequency of braking and acceleration, and by hypothetically allowing NASCAR-style drafting. If an autonomous truck had to follow a route through a city gridlocked with traffic at rush hour, it could simply shut down until the optimal time to traverse the traffic jam, which could be determined by mining data generated by commercial traffic congestion monitoring services such as Waze and Google Maps. Real-time computer-generated route planning could save millions of gallons of fuel presently burned merely to idle in traffic. Loads would arrive within narrower, more predictable windows of time, with many being hauled overnight, much similar to store workers restocking shelves in a big box retailer.

The first autonomous vehicles will clearly require human driver input in complex situations, such as during weather events or when traversing construction zones. Over time, however, as Chauffer and its progeny become more advanced, and as AV users become more comfortable and familiar with the technology, most experts agree that the role of the commercial driver will steadily erode, until it disappears. We foresee the truck drivers of today filling more of a helper’s or a “puller’s” role, assisting with loading and unloading, managing weigh stations and interactions with regulators within less than 20 years.

If consumers and the industry are enthusiastic adopters of AV technology, the effect on trucking and transportation law will clearly be tremendous, but what, exactly, will it be? In a nation serviced entirely by AVs, what is likely to happen to the liability defense industry? Will accidents and the litigation that accompanies them just... go away?

Accidents Will Happen

As human contributions to driving becomes rarer and rarer, so too will the mistakes that human drivers make. Human error

in the operation of a vehicle as the basis of liability may be replaced by human error in the manufacture and design of autonomous vehicles and the software that runs them. No human-made system is perfect and something will eventually go wrong. There will still be accidents, but what will they look like?

As error-prone humans are increasingly removed from the picture, the rate of traffic accidents is almost sure to drop. Automated technology should particularly decrease the rate of *low-speed* accidents, such as rear-enders in stop-and-go traffic. These accidents most often occur due to driver distraction, which will not be an issue for machine drivers.

“The ones who are going to get hit the hardest,” says one experienced Atlanta-area plaintiff’s lawyer with a string of victories in trucking cases, “are the TV law firms.” These firms, for which low-speed auto accidents are bread and butter, may see almost their entire books of business dry up. “We’ve definitely been talking about this amongst the plaintiff’s bar,” he admits.

While the risk that a particular vehicle will have an accident will likely decrease, it is less clear what may happen to overall accident *volume*. The decreased cost and ease of AV-enabled transport may cause the total volume of transportation actually to *increase*, especially if fuel costs remain low. Ordinary commuters may or may not continue to own their own cars, but even in the autonomous Uber-chauffeured future, they will still make full use of our roadways. A popular model of future transit patterns makes AV-only highways look strikingly similar to railroads: streams of vehicles, traveling autonomously, moving at high rates of speed, and if feasible, nearly bumper to bumper—a traffic pattern that will only be possible thanks to computer reflexes. Trucks will, of course, be in the mix.

Though fender benders may become relatively rare, catastrophic claims are likely to increase. With autonomous vehicles operating at higher speeds with lower margins for error, when accidents do occur, they will be serious. In this scenario, there would be a much lower rate of overall property and personal injury claims made per vehicle, but the few claims remaining, most likely resulting from equipment failure or human error by drivers of “outdated”

vehicles, will cause multi-car pileups and multi-party catastrophic injury lawsuits. In other words, if a computer driver suffers an unexpected system error, defending the resulting accident may look a lot similar to train wreck and airplane wreck defense today.

Elevators and Autopilots: The Twentieth Century Kin to Autonomous Vehicles

One of the central questions posed by the emergence of AV technology is how jurisprudence must evolve to account for it. Legal authorities have been forced to tackle similar conundrums thanks to the many scientific and engineering advancements of the past century. To help answer this question, then, we can examine the technologies from the twentieth century that are the most analogous to autonomous vehicles.

Foremost among these are present-day autopilot devices. A boat or plane in autopilot mode provides a limited range of services and requires constant human supervision. Liability in cases involving boats or airplanes set to autopilot is most often determined with a simple negligence standard, and almost always results in a finding that human error caused the accidents.

As with boats and airplanes, early AV technology will provide limited functions only, such as assuming control on long stretches of highway, or passing vehicles when the driver engages the turn signal, as with the current Tesla Model S. As long as AV functions remain limited, laws and regulations will continue to require varying degrees of oversight from a driver. Initially, not unlike cases involving the automated systems of boats and planes, AV cases resulting from human error are likely to remain in the majority and will similarly be resolved with a simple negligence inquiry. In other words, did an AV driver fail to exercise adequate oversight when allowing the vehicle to operate in autonomous “autopilot” mode?

However, the comparison between autonomous vehicles and twentieth century autopilots will become less useful as AV technology advances beyond the immediately foreseeable future. After all, the main point of AV technology is to remove the human from the equation as much as possible. In addition to maximizing safety

and efficiency, noncommercial AVs will be viewed as public policy tools to increase driver utility, namely by allowing operators to work remotely while traveling down a highway. Eventually, in the private auto sector, this feature could even contribute to suburban sprawl, by eliminating the need for a worker to live close to the office merely to be at a desk by a certain time.

Even in today’s infancy of AV development, lawmakers in Florida and Nevada have carved out exceptions to “no texting while driving” laws for operators of AVs, thus recognizing that the purpose of AV technology is to relieve humans from the requirement of paying full time and attention to the road. At their later stage of development, AVs will become less and less similar to planes equipped with autopilots in that active human oversight will no longer be required except in rare circumstances, and accidents will less frequently be ascribed to the error of a human driver in failing to exercise active oversight. This development should apply equally to the motor carrier industry and private autos.

Modern day elevators offer a different model to assess liability for AV-related accidents as the technology advances into its later stages—although this comparison also has flaws. Elevators once required full-time oversight, just as AVs will in the immediate future. However, the livery-wearing elevator operator, once a necessity for full-time operation of mechanical elevators, became obsolete in the 1970s. Since then, elevators have been almost entirely computer controlled. Courts have reached the consensus that the owners and the maintainers of these comparatively primitive “automated vehicles”—elevators—should be held to an “enhanced” duty of care, based on an elevator owner-operator’s status as a common carrier. In many states, motor carriers are also held to the common carrier standard today.

Presently the “enhanced” duty of care owed by a common carrier is more semantic than tangible: plaintiffs’ lawyers are allowed to point out that motor carriers and elevator operators have especially elevated duties, but a jury still retains the role of determining whether a common carrier met that “enhanced” duty, often using a relatively vague “fair and impartial” or “enlightened conscience” standard. In the AV-liability

scheme of the future, technological improvements may lead to a push for more states to adopt an enhanced duty of care, as well as to provide a more tangible definition of what that involves, possibly to include more concrete tests that a jury must apply, such as whether or not an AV operator lived up to specific federally regulated industry standards or common industry practices.

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Of course, the elevator analogy can only be stretched so far. Notably, elevators rarely collide *with each other*, and therefore elevator lawsuits almost always arise from injury to occupants of a malfunctioning elevator, not due to injuries to other elevators or the persons riding inside them. One of the duties that we foresee for the defense bar in the future will be to hold the line against easy, but imperfect, analogies that render liability for AV owners all but certain.

Differing Liability Schemes: What and How to Sue

As AV technology continues to evolve past any useful analog, it will pose a number of challenges to the civil justice system, not the least of which is how we will resolve accidents involving more than one automated vehicle. We foresee three distinct possibilities for the shape of future AV defense.

The first, which many in the media have assumed is inevitable, is a strict product liability system. Product liability has been fairly criticized for sending mixed, contradictory, or incoherent signals to industry. It is an expensive system, and one that can be stifling to new innovation. In a product liability case, each side is required to retain experts to offer opinions on whether or not a product was manufactured according to plan or had a reasonably safe design. A bat-

tle of the experts would thus become the de facto “decider” of every auto or trucking lawsuit, with hours or days of testimony regarding AV technology, lines of code, update protocols, and systems engineering dominating what are today relatively straightforward trials. Even with an overall lower number of total accidents, it is easy to see how adopting strict product

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liability for AV-trucking or AV-auto cases could fundamentally overwhelm the court systems and drive costs of litigation higher by several orders of magnitude.

Indeed, if strict product liability were to be adopted nationwide for AVs, the AV industry’s best counterattack could conceivably be binding arbitration. Any user of an AV—including private auto occupants—could theoretically be required to sign digitally, via thumbprint scanner, an “End-User License Agreement” waiving all rights to suit outside of the arbitration system. Since AV lawsuits should always involve claims against the AV developers themselves, which will conceivably be few in number and which will share closely integrated technology, these End-User License Agreements could be written so that every road user would be in privity of contract with the handful of AV developers making the computer-driver software for both trucks and private vehicles. In this way, even in the case of an AV wreck involving a tractor trailer and a private auto, the plaintiff would be forced to choose between binding arbitration in a suit including the AV developer, or an “empty chair” lawsuit, leaving the AV developer out of the case to avoid arbitration and bring suit in a regular court. Of course, in such

an “empty chair” scenario, the motor carrier or the driver defendants would be entitled to argue that the true at-fault party, the AV developer, had not even been named by the plaintiff. Meanwhile, in an AV-product liability arbitration system, especially knowledgeable arbitrators would decide fair compensation, rather than decidedly uninformed jurors, thus holding down damages awards to fair ranges, albeit with foreseeably higher overall defense costs.

The second possibility is a no-fault system in which every injured driver would be compensated for his or her injuries, not through suing another driver or a motor carrier, but instead either by a personal insurance policy, which every driver is mandated to purchase, or by a government fund. In the United States, this system is most closely analogous to our current-day worker’s compensation schemes. Numerous scholars who have examined this idea have concluded that a no-fault system is the best path forward for autonomous vehicles. No-fault systems, however, are notorious for undercompensating severely injured persons and overcompensating those with minimal injuries. Additionally, studies have shown that the reduction in personal responsibility in a no-fault system leads to a greater incidence of injuries. After experiencing this, Colorado recently reverted to a fault-based system from a no-fault system of auto liability. While this effect may be less pronounced with autonomous vehicles, at the very least, drivers and motor carriers will still need to provide input to their vehicles and maintain them, and our system of liability should encourage them to do so as responsibly as possible.

We believe that the most preferable way to move forward is not by creating a radical new insurance scheme or an expensive product liability-based system fueling a new arbitration industry, but with a more conservative extension of the current negligence analysis to autonomous vehicles. As with any tort action, today’s defendant in a vehicle accident case is liable when he or she breaches a duty that then causes injury to a plaintiff. The existence of a duty is established by common law or statute, and duties include such familiar driver mandates as maintaining control of a vehicle and keeping a proper lookout. Defendants who act unreasonably to violate these strictures are negligent. Inevitably, the

inquiry is reduced to whether a defendant acted reasonably.

The most logical way to deal with autonomous vehicles is to extend the “reasonable man” standard to the AV software, and this is what the liability defense industry—owners and attorneys alike—should strive to maintain as we enter the new AV world. Whether or not the AV “acted” reasonably is a question that jurors could answer based on the sum of their own experiences with vehicles, both automated and traditional. In this liability scheme, which our current system is best equipped to adopt, the timing of the application of brakes by an AV driver, or the decision of the AV to pull out of a parking lot, would be a question of AV reasonableness. While there would certainly still be an inquiry into the reasonableness of maintenance by the particular motor carrier involved, including making sure that the autonomous vehicle had the most up-to-date software, this system would avoid strict product liability with all that it entails, by essentially placing the AV in the defendant’s chair, just as if it were a human driver.

If an AV was determined to have malfunctioned, then the creator of the AV—whether that was a software company or an automaker—would have liability. If an AV’s malfunction was due to a failure to maintain the vehicle, then the motor carrier might have liability. If an AV’s malfunction could have been overridden by a human “overseer” who instead failed to act, then the driver—and via vicarious liability, the motor carrier—might have liability. This system would preserve the apportionment schema, however it has been established, in all 50 states and the District of Columbia, and it would require a jury to apportion fault “to the machine” as a separate entity from the other defendants when the evidence would warrant it.

Defending the Lawsuit of the Future

Whichever scheme is ultimately adopted, certain legal tactics are likely to become common. The doctrine of *res ipsa loquitur* will almost certainly rise in importance in the future. Presently, *res ipsa* is something of an argument of last resort for plaintiffs’ lawyers. The doctrine, which means “the thing speaks for itself,” only applies when something malfunctions that ordinarily does not malfunction without negligence on the part

of the owner or the operator. Typically, these claims involve simple machines such as automatic grocery store doors.

In a proper *res ipsa* situation, the doctrine allows a jury to presume that the person in control of a device was negligent, shifting the burden of proof to the defendant. *Res ipsa* claims are hard to prove because they require *exclusivity* of control, and in public arenas, such as grocery stores, there is almost always a hypothetical third party for a defendant to point to, such as a grocery store owner. In elevator cases, the courts have largely been disinclined to apply *res ipsa*, noting, for example, in one often-cited Georgia case line, that mechanical devices such as elevators can and do get out of working order without any input from a person whatsoever.

In a world of autonomous vehicles, however, *res ipsa* could become a very powerful weapon. Many of the attorneys that we polled for this article—both plaintiff and defense counsel—pointed to the duty to maintain and the duty to keep software updated as avenues of liability. It is reasonable to expect fully autonomous vehicles to be very well maintained, and of course they will be maintained not by the automakers, but primarily by a motor carrier or an individual vehicle owner. Coupled with improved computer sensors that will be able to measure things such as tread depth and brake pad condition, along with networked reporting capabilities, the maintenance burden imposed on equipment owners is almost certain to rise in step with AV technology. It is therefore foreseeable that when an accident involving an AV occurs, courts will turn to the doctrine of *res ipsa* to shift the burden to a defendant to show first and foremost that the defendant was not deficient in maintaining a machine, rather than forcing a plaintiff to prove his or her case.

The public policy argument in favor of *res ipsa* application will be low-hanging fruit for a plaintiff's lawyer: the more we turn over control to a machine, he or she may say, the more we need to make sure that the machine is in working order before releasing it. As defense lawyers, our job will be to build on the recognition that machines of any kind can and do get out of working order even with strict maintenance and repair schedules, and thereby defeat the temptation to apply *res ipsa* to

each and every AV case merely as the path of least resistance. The burden of proof must remain a plaintiff's burden because no machine as complex as an AV is truly a proper vehicle for a *res ipsa* analysis.

Another important consideration for defense attorneys relates to potential plaintiffs' damages. In today's trucking defense world, it is common—even usual—to find that the plaintiffs have preexisting auto accidents, often rear-enders, giving rise to pre-incident complaints of neck and back pain and a history of chiropractic or other treatment. Slips and falls and ordinary life injuries will never go away, but with an overall reduction in the number of fender-bender accidents, it is probable that the plaintiffs of tomorrow will have fewer preexisting conditions. One of the strongest tools of a defense lawyer today is medical causation: we are allowed to argue that a plaintiff's injuries are not actually due to the most recent incident, but rather, may date back to his or her history of preexisting conditions. While a world with fewer fender benders is absolutely preferable, ironically it may deprive the defense bar of one of its best means of holding down overall liability. Although on the other hand, having the majority of plaintiffs have clean medical histories certainly injects more certainty into the justice system.

The flip side of this coin is the public's perception of the tractor-trailer industry. Years of negative press have led us to our current situation: even a trucking industry lobbyist can be forced to admit that “the public is scared to death of big trucks.” In some states, including Connecticut, Georgia, and New Jersey, this negative perception has fueled onerous statutory penalties for the trucking industry, most notably “direct action statutes.” In states allowing direct actions, plaintiffs suing tractor-trailer companies are allowed also to name a trucking company's insurer directly, overriding hundreds of years of common law prohibitions against informing a jury in a case that the company has an insurer. Obviously, this leads to increased liability exposure. Plaintiffs' lawyers unabashedly admit that the direct action system skews results in their favor.

In a world populated with AVs, with the total accident rate dropping, public perceptions of tractor trailers as being especially dangerous are also likely to drop. Indeed, one easily foreseeable case is that of

a human-operated vehicle coming into contact with an AV-operated tractor trailer. Today, a lawyer defending a motor carrier faces an uphill battle. As the public begins to perceive AV drivers as near-errorless, this scenario will skew the other way: the implicit onus will be on the *human* driver to prove that he or she committed no error since a jury will understand that human error is far more common than computer error.

Planning for the Future

Over the next few years, transportation and trucking lawyers will begin seeing cases that involve an increasing number of AV components, and they may see their first cases involving a fully automated, “driverless” vehicle within a decade. We recommend taking the following into consideration in defending the first wave of these new lawsuits.

First, tractor-trailer operators and lawyers alike will need to make extraordinary efforts to preserve new types of evidence. The advent of AV technology will greatly lengthen the list of computer and system checks that must be thoroughly adhered to when examining a vehicle after an accident. Most defense lawyers are already familiar with these requirements as they apply to such devices as electronic control modules or “ECMs,” which capture, store, and output data points such as Delta-V change in velocity measurements. To this list must be added newer systems, such as automatic braking systems complete with forward-looking radar or lidar. Attorneys must be familiar with new AV components so that they can be sure to pull all the available data from them and properly document their condition after an accident.

Chances are good that an AV-operated vehicle will have functioned normally in most wrecks, but to prove it, all data points must remain available. AVs will output far more information, which will need to be supplied to a reconstructionist in practically every case as the litigation begins to develop while the public begins to digest the role of AVs on our national highways. The penalties for losing track of such information are likely to be far more severe in AV cases than in other types, with sanctions for spoliation almost guaranteed, since the assumption will be that an oper-

ator would only discard AV data if the data showed that the AV had malfunctioned.

Second, defense lawyers in early AV cases will need to identify and to retain a bona fide AV expert, who may initially be in short supply, to help bolster public acceptance of the new technology and avoid runaway verdicts based on unfounded distrust of “machine” drivers. Now is the time for the accident reconstruction industry to begin familiarizing itself with AV technology. Expert automakers and AV-software engineers may need to make themselves available as testifying experts during the roll-out years to ensure that the technology receives the widespread public acceptance that it deserves. AV experts will need to be able to explain very complex systems in clear, easy to understand terms, especially as these vehicles first reach the roadways. The potential offered by AV technology is vast, but the entire industry could be stymied in reaching that potential if the first AV lawsuits result in enormous liability recoveries and scare motor carriers and private auto owners alike away from the technology.

Third, defense lawyers will need to be prepared to take strict product liability arguments head-on. The plaintiffs’ bar can be trusted to argue for strict product liability in the future. This is a worst-case scenario for tractor-trailer and auto defense, with massively expensive defense costs likely to result if such a system is adopted wholesale, and onerous end-user burdens will become possible if the industry is forced to implement an arbitration system. Most importantly, human factors will remain relevant in every case, especially during the period when the national auto fleet is still transitioning to AV operation. When human input is involved, the proper analysis is one of negligence. When it applies, apportionment should remain the law, and liability should not be determined solely based on whether or not the machine had a malfunction.

Autonomous vehicle technology represents a sea change in liability defense, and one that is not easy to forecast in these initial days. There is widespread consensus that it is inevitable, and with the first waves of change already clearly visible on the horizon, the defense industry must be prepared. National dialogue on these ques-

tions is required if we are to avoid worst-case scenarios, such as the application of strict product liability to the entire trucking and transportation industry. While we recognize that predicting future trends is hazardous and that many of our forecasts may ultimately miss the mark, now is the time for us to begin anticipating and analyzing AV technology. When the change comes, it will be swift. **FD**