

## CONNECTED & AUTONOMOUS VEHICLES

# Riding Into a Fully Autonomous Future

*The rise of self-driving cars will mean changes to the workforce, existing laws and society at large*

**T**he advent of self-driving cars brings with it many questions, from what it means for the American workforce to how the technology will reshape our very cities themselves. Fortunately, attorneys like **Michael Drobac** and **Elliot Katz**, who specialize in emerging technologies and automated vehicles for **McGuireWoods**, are already hard at work thinking through some of the thornier legal and societal issues that may crop up. They've also been paying close attention to the regulatory landscape, as the House and Senate – and various state and local legislatures – work to pass new laws related to autonomous vehicles. Their remarks have been edited for length and style.

**There's been plenty of debate about what the impact of autonomous vehicles (AVs) will be on U.S. employment. What do you think can be done to prepare for the deployment of this technology?**

**Michael Drobac:** Obviously there has been a great deal of discussion about the future of work and workforce issues around a host of new technologies, including the internet of things, robotics, artificial intelligence and automation. Consumers are getting their goods and services and content through the internet. I think the other part of this trend is that now we're seeing technology take us to a place where, in the not so distant future, the technology for fully unmanned vehicles will be ready to scale. That is changing the complexion of the workforce, and that's one of the things that's being discussed by a number of leaders in Congress. They're highly sensitive to it and want to ensure they have a better handle on what new jobs will be created and how this transition will occur. Some have opined that is why commercial vehicles over 10,000 pounds were not included in the bill about AV that was recently passed in the House and marked up in the Senate.

But the question many people are asking is not whether there's going to be complete job displacement, but rather are



**The technology itself is very, very exciting because of the myriad benefits it can bestow upon society.**

– Elliot Katz

we appropriately training U.S. workers for the jobs of the future, and have we begun to identify what those jobs will be and how people will transition into them? Have we fully considered what the jobs that exist today may look like in the future? We must ensure that today's workers are not white-knuckled about the future. They should be able to share in the excitement of technology with appropriate training and see how autonomous vehicles can present opportunities for access to jobs for those in rural areas and for those who are currently unable to commute to work in addition to an entirely new infrastructure system.

**Elliot Katz:** To prepare, we need to understand that while highly automated vehicles may potentially cause some job displacement, there will also be job creation. We need to ensure, as a society, that if and when jobs are displaced, that those workers have the necessary skills to transition into the new jobs that will be created – or to other jobs that currently exist. The way we can adequately prepare for that is to implement occupational training programs, job retraining programs, and apprenticeship programs to ensure this potential job displacement does not turn into unemployment.

**Drobac:** Additionally, these workforce issues are a clear priority for the Trump Administration. The president has made it clear that jobs and ensuring that we're protecting workers in the United States are paramount. The executive order in June called for the expansion of apprenticeship programs to address much needed skill sets in the workforce. Even though the executive order wasn't specific to automated vehicles, what we're seeing is that industries and the administration are both highly aware of how the jobs of tomorrow will require different skill sets. Four-year colleges are addressing this through traditional education, but I think there is also going to be innovation in terms of how people receive training and are educated. This is a special time, and I like what the administration's been doing as far as touting job creation and apprenticeship programs and training that can really hit home where it's needed.

**Katz:** Just to add one more thing, dovetailing on something Michael said earlier, he mentioned that the two federal bills, both in the House and in the Senate, have excluded commercial vehicles over 10,000 pounds. That is not, in my opinion, a good way to prepare society for this automated vehicle transformation. Essentially, we're just burying our heads in the sand, when in reality we should be proactive about this issue. We don't want to limit the amount of these lifesaving vehicles that can be deployed on public roads. There were 40,000 traffic accident fatalities last year in the U.S. alone, and 4,000 of those were caused by commercial vehicles. So we don't want to limit the number or type of automated vehicles that can be deployed; we want to set up training programs to ensure that when these vehicles are deployed, that

people whose jobs could potentially be displaced are equipped with the skills to transition into new jobs.

**What are the major challenges that manufacturers face in complying with the current patchwork of state laws and regulations?**

**Katz:** With automated vehicles, we're dealing with an inherently interstate activity: driving. OEMs (original equipment manufacturers) do not manufacture cars only to be driven in say, Arizona, or only to be driven in Illinois. For that reason, we don't want to have divergent state laws that mandate very different things. For example, if one state says you have to have a steering wheel even in a fully automated vehicle, and one state does not, that would cause a major issue, right? Let's say hypothetically that those states border each other, then when someone is driving from one state to the other, they would have to stop and potentially hook in a steering wheel so that they're in compliance with that state's laws. That's very problematic.

**Drobac:** Good point, Elliot. A short answer to this question – and this is where there is a connection between the House and Senate bills – is that in order for there to be a unified view of regulation around autonomous vehicles, there needs to be federal preemption. The specific issue where we're going to see the most impact on the federal front is around design, construction and performance. Those are really critical to the Federal Motor Vehicle Safety Standards (FMVSS). Then there are some areas where the bills have entertained this idea that there will be a savings clause for things like licensure, insurance, safety emissions, where the states will have a role. This would strike a nice balance between federal and state regulation.

**Katz:** Now, in terms of what Michael was describing, if one of these bills goes the distance, we will have federal preemption, but that only deals with design, construction and performance. Areas that have traditionally been in states' purview, as Michael mentioned, like licensing, driver education and training, etc., would remain with the state – unless the law or regulation is an "unreasonable restriction" to the design, construction or performance of these highly automated vehicles. The problem that we could potentially run into, however, is the question of what is an "unreasonable restriction"? It's somewhat up



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to interpretation. For example, right now in New York State there is a law that says at least one hand must be on the steering wheel at all times. But OEMs may do things like design seating that allows someone who is traditionally seated in what we now call the driver's seat to rotate that seat and turn around to face other people in the car. Or they may remove the steering wheel altogether. Then the question becomes whether that one-hand-on-the-wheel law is an unreasonable restriction on vehicle design or construction. On the other hand, the law is arguably dictating what a driver must do. It could thus fall under driver education or training, which states are going to remain free to regulate. So this could potentially be an issue that we run into even when we have preemption in the space.

**What economic incentives are currently in place for vehicle manufacturers to deploy autonomous vehicles?**

**Katz:** First of all, when we're talking about connected and automated vehicles, we're dealing with a large amount of data. Some have projected that this data could reach \$1.5 trillion in value by around 2030. That in and of itself obviously creates an enormous economic opportunity for companies in the AV ecosystem. The second part of this is that right now when a consumer purchases a vehicle from an OEM, that's basically the end of the relationship to a certain extent, until there needs to be a vehicle repair or something of that nature. With connected and automated vehicles, vehicle manufacturers will have ongoing relationships with their customers. They can offer them services, they can partner with other businesses to offer them different and new experiences while they're in their vehicles, and the relationship will be extended that way.

**Drobac:** The truth is that there aren't many incentives from the federal or state level so far, because we don't yet have the kind of progressive thinking on the issue that is needed. I think it was great to see the House act on September 6 to pass their bill, and the Senate agree on October 4 to work out of the committee, but beyond that what I think we'll see is a host of legislation from states and city councils. We'll see many states get behind incentive programs for companies that are investing in this technology. I think this is an exciting area – states and localities incentivizing the future of mobility, including how they are going to address safety concerns, traffic migration flow, and a whole host of other issues where their investments will promote more growth.

**Where do things currently stand with the House's SELF DRIVE Act in the Senate?**

**Drobac:** That's a great question. One thing that was very interesting in terms of the activity in the House is that the bill passed on a voice vote, so this was not something that was highly controversial. This does indicate something, when you consider that this is a U.S. government that is struggling to fund itself and struggling to agree on how to reform healthcare, that's struggling on major issues that we face as a society, and yet they were able to get consensus around this concept that autonomous vehicles are absolutely the future.

The House bill passed by voice vote and then the Senate had a mark-up and it came out of committee unanimously. Now they have more work to do, but it's out of committee, so it would be ready for activity on the Senate floor. Then it would have to go to conference to work out the small issues between the two bills. Right now, it's pending activity in the Senate. Obviously, the House bill is before the Senate, but they won't take that up, they'll take up their own bill, and then the question becomes whether there is time before the end of the year for them to address some of the big issues that they haven't addressed yet around things like the future of the workforce, liability, and what state and federal roles should be.

**Let's get into more detail about what the pros and cons are and the differences between the two bills.**

**Katz:** They are similar on key points such as preemption, exemptions, and the fact that the FMVSS needs to be amended if we really want to enable deployment of these

vehicles. The FMVSS were created with vehicles driven by humans in mind. The FMVSS require steering wheels and brake pedals, which may be completely irrelevant when we're talking about fully automated vehicles. Any standard that says something in the vehicle needs to be operable by hands or feet is potentially not compatible with a fully automated vehicle. There's a firm understanding in both bills that the FMVSS have to be amended if we want to enable deployment here.

In terms of differences, there's really nothing on the labor aspect in the Senate bill. They didn't put forth any committee, they didn't ask for a study, there's really not much there. Whereas in the SELF DRIVE Act, they at least established a Highly Automated Vehicle Advisory Council, which is supposed to look at the labor issue, among other things, and make recommendations to the Secretary of Transportation and Congress.

Another difference is that the SELF DRIVE Act addressed privacy. It would require a written privacy plan, and the Senate bill does not. They both require cybersecurity plans, so that's a similarity, and cybersecurity is a very important piece of this for the driving public.

**Drobac:** It is important that the House specifically references the FTC (Federal Trade Commission) and the privacy issues, so they are incorporating FTC jurisdiction, which is interesting. The other thing is that the Senate bill promotes a working group to address issues for the disabled, which does not exist in the House bill. Also, the Senate's bill is much more flexible. The House bill is more structured. But both bills do a lot of good things. They have both addressed issues that are important to consider. In some ways I think they're complementary. And they add greater exposure and attention to issues where we need to flesh out some of the details.

**Cybersecurity and privacy concerns have also arisen with regard to connected and automated vehicles. What privacy laws are currently in place to help minimize the dangers in this area, and what best practices should manufacturers follow?**

**Katz:** With regard to privacy, there are the Privacy Principles for Vehicle Technologies and Services, which were established in 2014. This is self-regulation by the automotive industry, and currently about 20 automakers are signatories to those principles. With regard to cybersecurity, NHTSA (National Highway Traffic Safety Administration) and the Auto-ISAC have both released cybersecurity best practices.

On the cybersecurity front, as we said, both the Senate bill and the House bill are asking for a cybersecurity plan. We need to be extremely careful when we're talking about cybersecurity, and offering static solutions to a very dynamic problem. There could be a cybersecurity issue that doesn't exist today that exists tomorrow or next week or next month, and we need to be prepared for that.

Another thing that's important, and I know many companies in the space are already doing this, is working with security researchers. Some call these folks "white hat" hackers, good-guy hackers; they do penetration testing and make sure they are our first line of defense. They try to find holes in the security before the bad guys do.

**Drobac:** Here we can talk about drones as an example: That industry has come together around the privacy issue and come up with its own set of principles that are guiding the use of UAVs (unmanned aerial vehicles), such that everyone within the industry has adopted these principles in terms of what data is being collected, how it's being used, how it's being shared, policies that they all agree to put on their websites and have as part of their company's use of UAVs.

There was a lively discussion about how the collection of data by vehicles – in this context, aerial vehicles – was different than other existing privacy regimes. The focus has really been on promoting technology that would ensure safety and efficiencies, while not doing anything that would stand in the way of progress and innovation.

That doesn't mean you don't address issues like consumer privacy. You do, but you make sure you're not doing so in a way that is out of step with how the industry has already been forward-leaning on these issues. This is an area where there is going to be a robust discussion about privacy, to decide where there needs to be specific new standards versus where existing laws are going to be sufficient.

**Do either of you have anything else that you'd like to add?**

**Drobac:** A little more perspective on where things are right now: Waymo, the self-driving car company that spun out from Google, submitted its first safety evaluations to NHTSA in October, covering the lessons learned over the course of the 3.5 million miles Waymo vehicles have driven.

It shows just how focused these companies are. This is a situation where we see leading, cutting-edge companies already beginning to show the U.S. government what they're learning, really focusing on safety and security and working in collaboration with the government, because these are situations where, again, in September the Department of Transportation suggested that the guidelines are voluntary for their reports, while the Senate and House bills have provisions that would make these reports mandatory.

The fact that Waymo already submitted a fairly extensive 40-page report to NHTSA really demonstrates the kind of energy, responsibility and incredible focus the industry and the U.S. government have on doing this the right way.

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