

# Autonomous Vehicles: Threat or Opportunity

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Let's face it, our industry has been slow to adapt in the technology revolution we find ourselves in today. We operate in a capital-intensive, low-margin, fragmented industry, with a low barrier to entrance. Large and small carriers have been able to co-exist through competitive pricing and quality service as varying levels of technology have been introduced. The regulatory environment has always forced change but the political landscape has traditionally created enough time for compliance. NOW, technology is outpacing just about everything, there's intense political discourse, a shortage of qualified drivers, consolidation is happening at a faster pace, and there's a lot of capital flowing into our industry from non-traditional players. Make no mistake, we are entering the dawn of significant disruption in the trucking industry that will forever change how freight is moved on wheels.

Trucking represents the backbone of our nation's economy that goes unrecognized by the consumer- who drives our economy. People want their goods now with no extra cost and do not care how it gets there. However, take a step inside our industry and one gets a different perspective of how things work. A labyrinth of communication channels combined with competing customer demands, and external obstacles calling for perpetual alterations. An endless amount of tribal knowledge built from years of experience that serves customer's needs and keeps the wheels turning. Millions of accident free miles driven by tax-paying professionals who understand the value of the service they provide. NOW, we find ourselves in an unprecedented situation where there are not enough trucks available to meet the demands of shippers in a hot economy and substantial rate increases are being implement-

ed throughout the industry regardless of how technologically advanced the carrier may be. It doesn't seem like there's a huge incentive to change one's model of doing business at a time like this, right?

Technology is driving change at a faster pace these days and our industry will be transformed because of it. Autonomous vehicles may represent the biggest threat (or opportunity) but cannot successfully drive our industry into the future without consideration of the items listed above. Unfortunately, there is no GPS to guide us down this road so we'll focus on The Driver (our industry's most valuable asset) and continue with some professional direction on the insurance and legal landscapes for a future that includes advanced driver assist technology.

A driver will always be present in the truck. Regardless of the level of technology there is too much at stake not to invest in equipment that includes our industry's most valuable asset. The truck driving career comes without the debt of college tuition, provides middleclass earning opportunities, and allows millions of Americans the opportunity to contribute to our nation's economy. It seems likely that our legislators and the general public will be more inclined to find ways to cultivate these opportunities instead of eliminating them.

Which brings us to the real problem connected with the truck driver. There are not enough of them (50,000 short today) and the problem is projected to get worse as we role into the future. The average age of a truck driver is now in the mid 50's and the perception of this career hasn't caught up with the benefits that have been created. This aint your daddy's truckn' industry, and as my friend Susan Fall of Launchit likes to

say, “Trucking needs to be viewed as sexy”. And the best way to promote this career opportunity to a younger generation is to fill it up with technology. There is great opportunity to entice the next generation of drivers with advanced technology that will naturally automate many of the functions associated with driving a truck. These advancements should also be created to accommodate current drivers who find value in driver assist technology and the benefits that come with it. In addition, how do we best plan for the social conflict that will arise between the tech-savvy younger generation and older experienced professionals unwilling to adapt but with significant knowledge to contribute? There is a tremendous opportunity to mentor across generations if we plan correctly for near-future changes in the workforce.

So let’s just say that we succeed in bringing sexy back to trucking with technological advancements that automate many of the driving functions and opens the dock doors for a new generation of drivers. How do we indoctrinate them into this profession? Someone has to teach the driver how to use all this great technology. How will differences in comprehension levels between younger and older students be taken into account when teaching advanced technology? It’s difficult to construct a curriculum around a product with new technology that has not been deployed. This will take time and will evolve with the technology.

Education is the gateway to a successful career

in almost every industry including trucking. The major benefit for trucking is that the cost of a driver’s education does not result in a load of debt while beginning a new career. Truck driving training schools are a great place for individuals to get the training they need and deliver customized solutions for job placement. However, maintaining this affordable option for employment comes with its own costs which is why government funding for these programs is critically important. Yes, like many other education-based institutions, government funding plays a role in making sure commercial vehicle training is successful and offers an affordable education for a trade that’s in high demand. If we truly view driver-assist technology as an opportunity to successfully drive our industry into the future then education is part of the equation.

On March 23rd of this year, a \$1.3 trillion omnibus spending bill was signed into law and will keep all government agencies funded through the remainder of FY2018. As part of the bill, Congress approved \$3.486 billion for Workforce Investment and Opportunity Act (WIOA) grants, a \$444 million increase over their original FY2018 request. Congress also approved \$145 million for apprenticeships, a \$56 million increase over the President’s request. Not only has Congress approved a substantial increase in WIOA grants, the approved amounts are nearly \$150 million above FY2017 levels.

*See table below for details:*

| PROGRAM   | FY 2017 TOTAL   | PRESIDENT TRUMP’S<br>FY 2018 REQUEST | HOUSE APPROP<br>COMMITTEE ORIGINAL<br>FY 2018 REQUEST | OMNIBUS FY<br>2018 BILL |
|---|-----------------|--------------------------------------|---|-------------------------|
| <b>WIOA</b><br>(ALL PROGRAMS IN TOTAL)                                | \$3,338,699,000 | \$2,053,766,000                      | \$3,042,720,000                                       | <b>\$3,486,200,000</b>  |
| <b>ADULT EMPLOYMENT<br/>AND TRAINING<br/>CLASSES</b>                  | \$815,556,000   | \$490,370,000                        | \$776,736,000   | <b>\$845,556,000</b>    |
| <b>YOUTH ACTIVITIES<br/>(16-24)</b>                                   | \$873,416,000   | \$523,667,000                        | \$831,842,000   | <b>\$903,416,000</b>    |
| <b>DISLOCATED WORKER<br/>EMPLOYMENT &amp;<br/>TRAINING ACTIVITIES</b> | \$1,020,860,000 | \$615,485,000                        | \$1,145,530,000                                       | <b>\$1,040,860,000</b>  |
| <b>APPRENTICESHIPS</b>  | \$89,000,000    | \$90,000,000                         | N/A   | <b>\$145,000,000</b>    |

Source: Commercial Vehicle Training Association



This is a good example of how funding flows into the system to promote workforce development in our industry. But in order to be effective it's critically important that we successfully recruit individuals before they find employment in other industries. The American Trucking Associations states that we will have to recruit an additional 89,000 new drivers (net) per year over the next decade to meet growing demands. Using advanced technology to attract younger tech-savvy individuals should give our industry an edge instead of the regulatory detour that limits interstate driving to individuals over 21 years of age. This outdated regulation is redirecting potential drivers down other career paths and needs to be changed.

Fortunately, congress has created a provision in Fixing America's Surface Transportation Act (FAST ACT) which creates a pilot program that allows certain veterans from ages 18-21 to drive commercial motor vehicles in both interstate and intrastate commerce.

In addition, legislation introduced by Rep. Claudia Tenney (R-NY-22), the Waiving Hindrances to Economic Enterprise and Labor (WHEEL) Act, expands this pilot program to include any eligible 18- to 21-year-old driver with a valid CDL and a clean driving record. While the original pilot program established under the FAST Act is a good start to verifying the safety of younger drivers in trucks, expanding the program to include any eligible driver aged 18-21 will provide a larger and more diverse study group from which to collect critical data.<sup>1</sup>

The Commercial Vehicle Training Association supports lifting restrictions that prevent 18-21-year-old drivers from operating in interstate commerce. Entry-level driver training (ELDT) standards currently being implemented will ensure all truck drivers, regardless of age, will have a base-level proficiency that ensures they are better trained and safer drivers. With the advent of new technologies trucks are safer to operate than ever before.<sup>1</sup>

Gary Pressley of Heavy Metal Truck Training is a leading voice for the CVTA and despite being extremely busy training the latest group of industry professionals says that these changes are needed in order to keep up with demand. He is encouraged by the long list of applicants but keenly aware of the regulatory hurdles we must overcome to increase the number of qualified truck drivers across the country.

Insurance may or may not be a hurdle for AV technology but represents one of the largest expenses for trucking companies and is often

pondered when discussing AV technology. When trying to predict how this will play out one has to address the issue in context of varying levels of automation and the liability connected with them. There seems to be more questions than answers these days and my friends buying new trucks tell me that most manufacturers may have the technology for level 5 automation but are not prepared to deploy due to the liability that could come with it.

Pat O'Neil of Truck Writers has done a great job in summarizing the current marketplace and what we might expect moving forward as AV technology evolves.






















- Research shows accident frequency will go down (projected 90% by 2050- KPMG)
- The cost per claim is estimated to double in the same time, but the reduction in frequency will outweigh the per-claim cost eventually leading to a decline in premiums
- Auto Liability and Physical Damage- Projected to decrease primarily due to increased automation in personal passenger vehicles
- Auto Liability could be further reduced if OEM's take on more product liability
- Cargo Liability – Exposure is also mitigated following a reduction in accidents
- Cyber Liability – Cyber risks involved with autonomous vehicles will be the largest increased exposure.
- Reductions in premiums will be slow due to underwriting losses with commercial auto insurers, and as of now, the accident frequency remains unchanged while an increase in severity has already taken place.

If autonomous vehicle technology creates questions around the insurance marketplace it will most definitely generate discussion surrounding the legal issues that will arise in the future. Michael Glover of Lomen Abdo also serves on the MTA's Autonomous Vehicle Task Force and has done an excellent job surmising how legal issues will address automation based on previous adaptations and how our industry interacts with the law today.

“The legal issues facing automated driving technologies are interesting but not insurmountable. Safety and the consequences are well trodden legal issues. Safety and risk allocation will be the primary drivers in considering sophisticated automated vehicle technology. Those using enhanced driving technologies can still largely control their risk exposure with proper agreements while court decisions and regulation will

# The 5 levels of driving automation

For on-road vehicles

|  |                                 |  Human driver |  Automated system |  |  |
|--|---------------------------------|--|--|--|--|
|  |                                 | Steering and acceleration/deceleration   | Monitoring of driving environment  | Fallback when automation fails   | Automated system is in control   |
| Human driver monitors the road             | <b>0</b> NO AUTOMATION          |               |                    |   | N/A  |
|  | <b>1</b> DRIVER ASSISTANCE      |               |                    |   | SOME DRIVING MODES   |
|  | <b>2</b> PARTIAL AUTOMATION     |               |                    |   | SOME DRIVING MODES   |
| Automated driving system monitors the road | <b>3</b> CONDITIONAL AUTOMATION |               |                    |   | SOME DRIVING MODES   |
|  | <b>4</b> HIGH AUTOMATION        |               |                    |   | SOME DRIVING MODES   |
|  | <b>5</b> FULL AUTOMATION        |              |                   |  |  |

Source: SAE International

follow. Historically, the “law” is a mishmash of court decisions involving disputes between private parties and statutory / regulatory law. In the past 250 years, our “law” managed the to adapt to the Revolution (i.e. agricultural, industrial, several cultural, and the initial phases of the information revolution. It will easily manage automated vehicle technology. Such technology presents nothing more than another round of careful consideration of what parties should be able to agree among themselves (contracts), what is reasonable conduct absent an agreement (tort or negligence) and what public interest should be protected by the government (regulation). Private parties generally move faster than government or courts, so expect the parties immediately involved in new automated technologies to agree among themselves in well written contracts (sales agreements, warranties, licenses, and insurance agreements) how to resolve the legal disputes between them. This is where technology users can have the most influence. If the actors are not party to an agreement, court decisions, using existing tort (negligence) concepts, will make law whether parties have a duty to one another and whether the parties acted reasonably under commonly accepted communi-

ty standards. Last to jump in will be government which might simply codify common types of contract arrangements or negligence standards. However, government could pass rules and regulations which differ dramatically from either of those standards (like bankruptcy, patent and no-fault laws). Doing that will take some time and will not come as surprise. Like most legal issues, the parties have the most impact on their own contracts and agreements, some impact on governmental regulation, and relatively little direct impact on determining community standards.”

Autonomous Vehicle Technology.....No, Driver Assist Technology has many benefits that influence a variety of factors impacting our industry today and in the future. To have the greatest return on investment, the wave of new technology cannot be analyzed independent of the key components in which our industry was built on, none more important than the people that drive our success everyday. Part II will take a more technical approach to this topic to gain a better understanding of the equipment being deployed today and what to expect as we move forward... with a driver in the truck. **TM**