

# CDL DRIVERS AND AUTONOMOUS VEHICLES – WHERE THE RUBBER MEETS THE ROAD



JULY 2018 TECH BRIEF FOR THE TRANSPORTATION, LOGISTICS AND DISTRIBUTION INDUSTRY

## Commercial Carriers Bracing for Transformation

Since the [early 1930s](#), trucking companies have employed [Commercial Drivers' License \(CDL\)](#) holders to ship goods across the U.S. Currently, [America has a massive shortage of truck drivers](#). In NJ, the Bureau of Labor Statistics (BLS) reports 29,070 CDL truck drivers (SOC 533033) and 45,650 drivers of heavy tractor trailers (SOC 533032) working as of May 2017. Even so, over 28,000 new jobs remain open.

Automation is gearing up to fill the void. With the advent of autonomous vehicles, including drones, vans, and now commercial delivery trucks, the way goods and services reach the market will change drastically. TAN recommends companies shipping goods study the implications of the changing TLD landscape.

## Labor Force Takeaway

BLS lists an average annual salary of \$37,390 for CDL truck drivers with a 90<sup>th</sup> percentile wage of \$61,300. These jobs are at risk both to autonomous vehicles, but also to the retail sector trend of on-line ordering. Smaller delivery vehicles do not require commercial licensing.

LWD's [Demand Occupations](#) equates taxi/chauffeur, bus, and rail drivers to CDL drivers based on competencies. For railway occupations, a Conductor Certification is required. A passing grade of 85% on the certification test; a 2-day training and test prep program available. Visit [utulocal60.com](http://utulocal60.com) for data to vet this as a listed credential.

BLS reports an average annual salary of \$48,290 for Heavy and Tractor-Trailer Truck Drivers; the 90<sup>th</sup> percentile wage of \$66,350. Reports of [salaries up to \\$80K/year](#) are reported for fleets in other states. These positions are likely to be the last to be replaced by autonomous vehicles due to safety concerns. Furthermore there is [a push to allow 18 - 21 year-olds](#) to drive tractor-trailers across state lines. If legislative changes are made, the expectation is that labor shortages should ease considerably.

Three factors (of many) will effect the deployment of autonomous vehicles 1) the quality of roads 2) perception [of danger](#) and 3) legislation. The first class of CLD drivers to be replaced will be those driving lighter trucks at slower speeds. CLD classes and endorsements for heavier trucks and larger distances will be replaced last. TAN recommends LWD fund CLD training for tractor-trailers and similar heavy equipment.

# DRIVERLESS COMMERCIAL VEHICLES WILL ARRIVE

Shipping costs have skyrocketed in 2018 due to a shortage of truck drivers. Federal officials consider this one of the clearest signs yet that the strength of the US economy is leading to inefficiencies and inflation which will eventually hinder the economy's growth. Recession could follow.

Furthermore, trucking is arguably **the deadliest job** in the US. Hence legislators, technologists, industry associations and businesses are all looking at ways to ease the transportation industries pain with (among other solutions) rolling out autonomous vehicles. There is a perception of **danger from autonomous vehicles** which is at odds with data, and this perception will need to be managed for full deployment to be successful.

**Mining companies** have long used autonomous vehicles. The core technology is available and **improving**.

On highways, the first successful trial was in October 2016 when the first shipment of goods – **a tractor trailer full of Budweiser** – was successfully delivered 120 miles across Colorado. **Waymo**, the driverless car company owned by Alphabet, recently launched **a self-driving truck pilot program**. **Embark** – in a partnership with trucking behemoth Ryder – has a truck delivering refrigerators weekly from TX to CA. With bundled “truck trains” – trailers with a single tractor, one closely following the other, aka **“platoons”** – costs are reduced. DHL will have autonomous trucks on the road this year.

**The Trucking Alliance Board of Directors** and **The American Trucking Association** have both agreed to support the development and proliferation of advanced vehicle technologies. In addition to driving down costs of shipping (the cost of tandem drivers alone estimated at \$150K annually per vehicle) the safety benefits are expected to be impressive. Insurance costs will decrease, and the cost of accidents involving commercial vehicles will drop as well.

**Vehicle manufacturers including Daimler, Volvo, Waymo and Tesla offer prototypes in varying stages, from beta to production.**

**Trucking industry veterans** argue it could be a **long time before** demand for **human drivers** falls significantly. Oddsmaker **Jim Murray**, with **sportsbettingexperts.com**, predicts over 21 million vehicles will be sold within the next 15 years. Expert Lior Ron, by contrast, anticipates full **autonomous deployment** in the commercial sector within 10 years, by 2028. The collective thinking converges around **2020** as the year we will begin to see driverless trucks regularly transporting goods on U.S. highways, with full deployment in 2028.

The **International Transportation Forum** calls out the testing, infrastructure issues (roads, vehicles), and **regulatory** hurdles that will need to be addressed for large-scale deployment. Social acceptance is less predictable and could be very impactful.

Legislation allowing for self-driving commercial vehicles has been passed in 33 states, although NOT New Jersey. Bills have been introduced in Trenton, however, specifically in the **Senate** (NJ S 2149) and in the House (NJ A 1853) seeking to permit the testing of autonomous vehicles on state roadways under certain circumstances.

New Jersey is in the top half of **states with large truck fleets**; ~3 million trucks traverse our roads. If the impact to drivers holds at the same levels in the Garden State as nationally, expect to see driver reductions of 4,000-10,000 over the next 4-8 years.