



TRUCK DRIVER SHORTAGE ANALYSIS 2019



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BACKGROUND

During the past 15 years, the trucking industry has struggled with a shortage of truck drivers.¹ The shortfall was first documented in a 2005 report. At that time, the shortage was roughly 20,000. During the Great Recession that started in 2008, the driver shortage was erased, but only because industry volumes plummeted, resulting in fewer drivers needed. However, as industry volumes began to recover in 2011, the shortage slowly returned. The driver market continued to tighten, and the shortage skyrocketed to roughly 50,700 by 2017. In 2018, the industry suffered a greater shortage, largely due to robust industry freight volumes. As this report highlights, the driver shortfall is expected to fall slightly by the end of 2019 from a combination of slower economic growth and a small bump in supply.² However, the combination of a tight labor market and an aging truck driver population is expected to keep the shortage near its peak in 2018.

There are many reasons for the current driver shortage, but one of the largest factors is the relatively high average age of the existing workforce. According to surveys by ATA, the average driver age in the for-hire over-the-road truckload industry is 46. Other trucking sectors have an even higher average age, like less-than-truckload and private carriers. While the driver shortage is not as acute in these sectors as it is in the over-the-road truckload sector, the high average age still affects the overall shortage. As these two groups see drivers retire, they often go into the for-hire truckload labor pool to recruit drivers.

Additionally, the industry has historically struggled to attract all segments of the population as just 6.6% of truck drivers in 2018 were women. This percentage hasn't changed much historically, ranging from 4.5% to 6.6% over the last 18 years. In 2018, 40.4% of drivers were minorities, which has jumped 13.8 percentage points from 26.6% in 2001.³

Today, motor carriers⁴ struggle to find enough qualified drivers, which makes the impact of the shortage seem much worse than the numbers in this report. Many carriers, despite being short drivers, are highly selective in hiring drivers because they have made safety and professionalism high priorities.

¹ In this report, the term "truck drivers" refers to Class 8 tractor-trailer drivers, a subset of the more than 3.5 million truck drivers in the U.S.

² The small increase in supply comes primarily from two sources. First, while there is still much room for further gains, some large shippers are doing a better job of reducing driver wait times at their facilities, which means the same driver can do more hauls, increasing effective supply. Second, due to a significant amount of media coverage in 2018, more people have come to the industry to drive trucks. The combination of these two changes increased supply slightly.

³ The percentage of females and minorities comes from the Department of Labor and published in ATA's American Trucking Trends 2019. (www.atabusinesssolutions.com)

⁴ Throughout this report, the terms "motor carrier", "carrier", "trucking company", and "fleet" are used interchangeably.

The driver shortage is really a problem for the entire supply chain as 71.4% of all freight tonnage is moved on the nation's highways.⁵ According to the American Transportation Research Institute, 43% of trucking's operational costs is driver compensation,⁶ which is the largest operational cost for a motor carrier. Additionally, as volumes increase, the existing driver pool is only more strained.

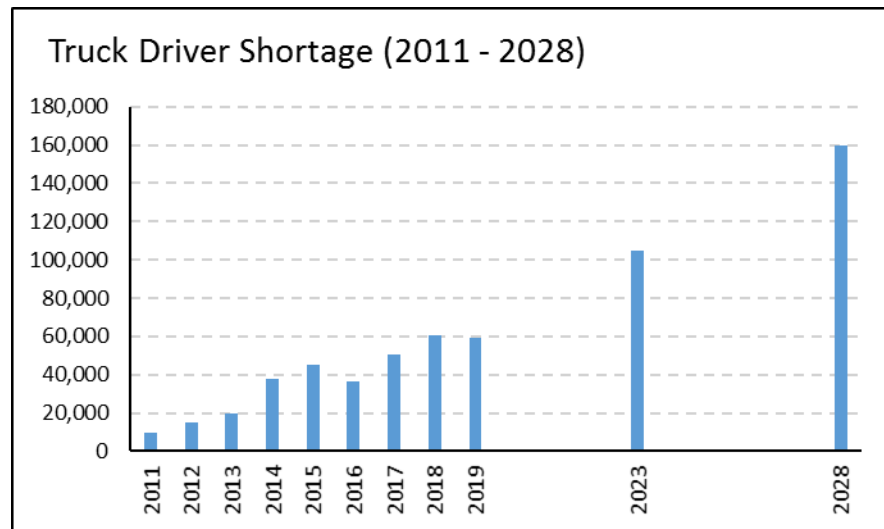
⁵ ATA's Freight Transportation Forecast 2019 to 2030 (www.atabusinesssolutions.com)

⁶ ATRI, An Analysis of the Operational Costs of Trucking (www.truckingresearch.org)

KEY FINDINGS

- In 2018, the trucking industry was short roughly 60,800 drivers, which was up nearly 20% from 2017's figure of 50,700.
- If current trends hold, the shortage could swell to over 160,000 by 2028.
- This analysis and forecast does not consider the impact of potential regulations in the future. Instead, it simply demonstrates the difference between the expected supply of drivers (using demographic and population data) and the demand for drivers (which accounts for industry growth and replacing aging drivers).

- The truck driver shortage probably seems much worse to motor carriers than the current figures suggest because of a **quality versus quantity issue**. Many carriers have strict hiring criteria based on driving history, experience, and other factors. As a result, despite receiving



applications for employment, motor carriers are finding few eligible candidates, which is a quality issue. According to a 2015 ATA study, 88% of fleets said they were getting enough applicants, but many were simply not qualified.⁷ There is no reason to believe that this situation has improved since 2015. The cost of lowering hiring standards can be significant in the long run when accounting for increased insurance premiums and accidents. Again, **this analysis does not take into account the quality of applicants**.

- **The truck driver shortage and driver turnover rates are not the same.** Turnover, which was 89% for large for-hire truckload carriers and 73% for small for-hire truckload fleets in 2018, is a reflection of demand for drivers, with higher rates generally indicating strong demand for drivers.⁸ The vast majority of driver turnover is churn in the industry – drivers moving from one carrier to another. As demand for drivers increases, trucking companies try to recruit drivers from other carriers by offering sign-on bonuses, higher pay, newer trucks, and better

⁷ ATA Benchmarking Guide for Driver Recruitment & Retention

⁸ These numbers are reported in ATA's *Quarterly Employment Report*.

routes. However, the shortage is calculated in a completely different manner and churn in the industry is not included in the shortage calculation.

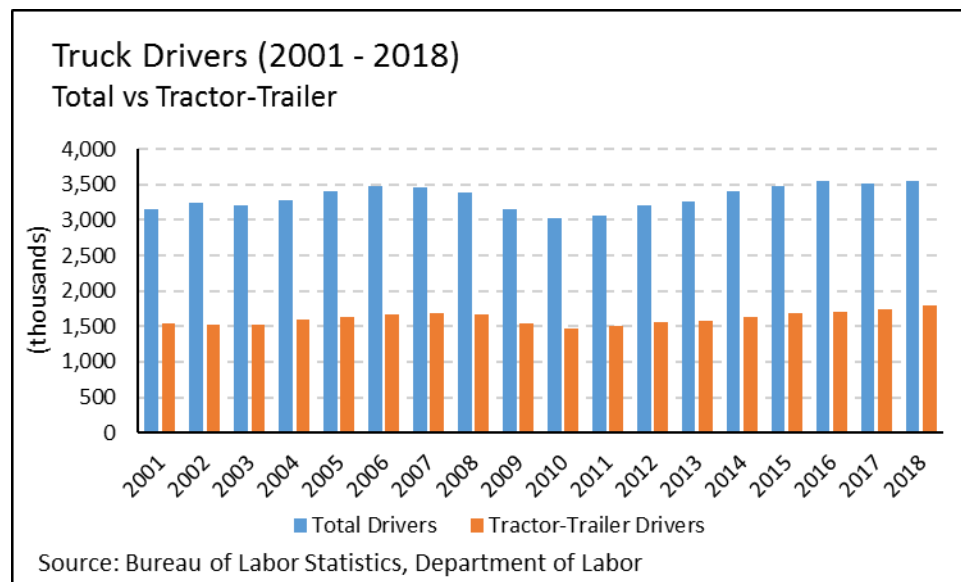
- Over the next decade, the trucking industry will need to hire roughly 1.1 million new drivers, or an average of nearly 110,000 per year. Replacing retiring truck drivers will be by far the largest factor, accounting for over half of new driver hires (54%). The second largest factor will be industry growth, accounting for 25% of new driver hires.

METHODOLOGY

The challenge in calculating the driver shortage is that one cannot simply survey motor carriers for the number of drivers⁹ that they need and sum that number up because this would lead to a much-inflated number. Many motor carriers would hire additional drivers to meet increased demand from customers if they could. The problem is that many trucking companies are competing for the same freight.

Here is an example highlighting this point: Motor Carrier A could add 10 new drivers to haul extra freight for Shipper X but cannot due to lack of qualified driver supply. As a result, Shipper X asks Carrier B to haul the freight instead. Since Carrier B cannot haul it as well, they too are looking for 10 additional drivers. If you survey Carriers A and B, you could project that the shortage is 20 drivers. However, if either Carrier A or Carrier B finds those 10 drivers, the demand for the other 10 goes away. Thus, the real shortage is 10 drivers.

Therefore, we do not survey motor carriers when estimating the driver shortage. Instead, we use demographic driver data, population growth by age data, tractor counts, and projected economic and industry growth information to model and forecast the truck driver shortage.



One of the most important steps in this process is to determine what data should be included for truck drivers and commercial trucks. While some local delivery companies might have difficulty finding truck drivers, the bulk of the driver shortage is for over-the-road

(i.e., non-local) drivers operating heavy-duty tractor-trailers (i.e., Class 8 tractors).¹⁰ Therefore, this analysis is for drivers of tractor-trailers.

⁹ This analysis includes both employee drivers and independent contractors. However, data limitations prevent us from separating out these two types.

¹⁰ Of the 7.8 million people employed throughout the economy in jobs related to trucking activity, 3.5 million were truck drivers in 2018. There are over 10 million CDL (Commercial Driver's License) holders in the U.S., but most are not current drivers and not all are truck drivers. There are roughly 3.7 million trucks on the road today that require

Calculating the driver shortage generally requires two steps: first, determining current demand for drivers of Class 8 tractors in order to project that demand in the future based on expected industry growth, and then calculating and forecasting the supply of truck drivers. Here, we utilize Census Bureau data on industry employment, civilian labor force numbers, and demographic data regarding age and gender. The Census Bureau projects growth in civilian labor force by age and gender.

After calculating both the demand and supply of drivers, we match up the two to determine the surplus, or most often, shortage of drivers. It is important to note that this analysis assumes no changes in regulations beyond 2018, including changes in the age requirement for driving an interstate tractor-trailer, which is currently 21 years old. Changes to regulations, including age requirements or productivity-changing regulations, like truck driver hours-of-service rules, would impact this analysis.

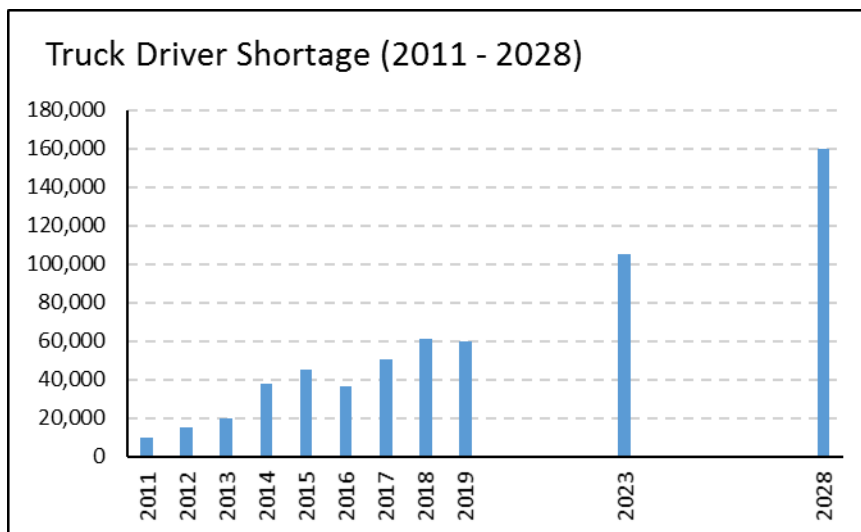
The analysis also assumes that the industry does no better than today at attracting different age groups or female drivers. If the industry was able to convince a higher percentage of 21-30 year olds or more female drivers in all age categories, the shortage in the future would not be as high as projected in this report.

a driver to have some sort of CDL. The Department of Labor says there are 1.8 million are heavy and tractor-trailers drivers. We are only focused on the over-the-road tractor-trailer drivers.

TRUCK DRIVER SHORTAGE

In this analysis, we focus only on drivers of Class 8 tractor-trailers. This is where the bulk of the truck driver shortage prevails. Even within this category, the vast majority of the shortage is within the over-the-road, or non-local, for-hire truckload sector. The other main carrier types operating this type of equipment are for-hire less-than-truckload carriers (LTL) and private fleets (i.e., a retailer or manufacturer that operates a fleet of trucks to support their main business). LTL and private fleet drivers are generally paid more and are home more often. So while these two sectors are struggling with driver recruitment and retention more so than in the past, their challenges pale in comparison with the truckload sector. Therefore, while the driver shortage numbers below are for the entire industry, the vast majority of that shortage is in the for-hire truckload sector.

In 2018, the shortage of truck drivers was 60,800, which is a record high and up more than 10,000 from the prior year. In 2019, we expect the shortage to decrease to 59,500, slightly below its highest level in 2018.



The forecast for a decrease this year is due to a couple of reasons. First, the freight economy is slowing from the torrid 2018, with declines in freight in some sectors. Second, with so much emphasis put on the driver shortage by the news media last year, the driver pool increased. When you couple that with the flat or decreasing volumes expected this year, the

shortage falls back slightly, but will still be at the second highest level on record. If nothing changes in the trend line by 2028, the shortage could reach 160,000. We are not saying that the shortage will reach that level; instead, this is more of a warning to the industry and the broader supply chain of what could happen if things don't change.

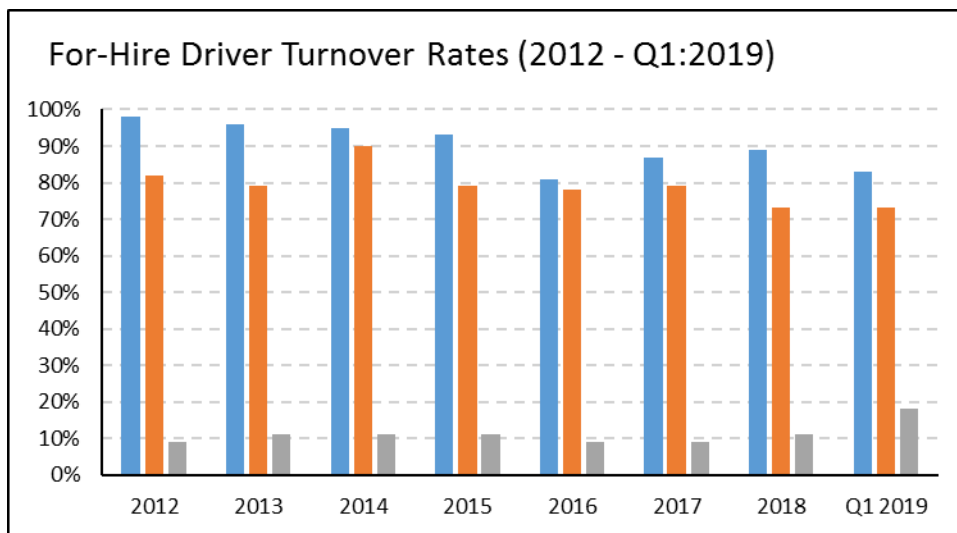
If the trend stays on course, there will likely be severe supply chain disruptions resulting in significant shipping delays, higher inventory carrying costs, and perhaps shortages at stores. Because trucks account for 71.4% of all tonnage moved in the U.S., it is highly unlikely that the driver shortage could be reduced in any significant manner through modal shift (i.e., shifting a large amount of freight from the highways to the rails).

Many factors, both positive and negative, could impact the shortage in the years ahead. For example, if there are any new government regulations on the industry—and often regulations on trucking reduce industry productivity—it would in effect increase in the shortage. In other words, declines in productivity mean that the industry needs more trucks and drivers to haul the same amount of freight. However, if the federal government were to lower the age for interstate drivers from the current requirement of 21 years of age, it could help reduce the driver shortage. None of these potential changes to regulations are factored into the shortage numbers in this report.

The other important caveat to the truck driver shortage is a quantity versus quality issue. The shortage probably feels much worse to most trucking companies because of their hiring standards. Because of many companies’ strong focus on safety, many otherwise eligible candidates are disqualified as a result of poor driving history or other related factors. Additionally, for companies that are not self-insured, insurance companies often require drivers to have two to three years of driving experience before they are willing to underwrite them.

Also, driver turnover and the driver shortage are not the same. Truck driver turnover often runs at elevated rates when drivers are in high demand because the drivers know they can jump from motor carrier to motor carrier. Additionally, trucking companies will aggressively recruit drivers from other carriers offering sign-on bonuses, higher pay, newer trucks, and more appealing routes. This increases industry churn, resulting in higher turnover, which is very different from the shortage of drivers and calculated using a completely separate method.

After averaging at least 93% annually from 2012 through 2015, the for-hire truckload driver turnover rate fell to 81% in 2016 as the freight economy softened significantly. However, as the economy has picked up, so has driver turnover. In 2017



and 2018, turnover in the for-hire truckload sector reached 87% and 89%, respectively. With slowing growth in 2019, the first quarter fell to an 83% annualized rate¹¹, with the vast majority of this turnover being churn in the industry. Sometimes truckload carrier hiring activities add to industry churn. According to ATA’s *2017 Driver Compensation Study*, roughly 44% of for-hire

¹¹ For-hire truckload and LTL driver turnover rates are published quarterly by ATA.

truckload carriers were offering a sign-on bonus with a median bonus amount of \$2,000.¹² It is likely that the percentage of truckload carriers offering a sign-on bonus is high today as well.¹³

LTL carriers and private fleets generally have much lower turnover rates as the drivers in those sectors are home more frequently and generally paid more. In 2018, LTL carriers had a turnover rate of 11%, while private fleets reported a turnover rate of just 8% in 2014.¹⁴

¹² ATA's 2017 Driver Compensation Report (www.atabusinesssolutions.com)

¹³ ATA will be collecting data to update these 2017 numbers and will publish the data in early 2020.

¹⁴ The private carrier information was published in ATA's 2014 Driver Compensation Report.

CAUSES OF THE TRUCK DRIVER SHORTAGE

There are many causes of the truck driver shortage. Outlined below are some of the primary reasons the industry is suffering from a truck driver shortage.

- **Demographics, Age:** The median age of over-the-road truck drivers is 46,¹⁵ compared with just 42 for all U.S. workers.^{16 17} Some sectors within the trucking industry have an even higher median age. For example, private fleet drivers have a median age of 57 years old.¹⁸ Additionally, the current age requirement to drive a tractor-trailer across state lines is 21. This means that interstate motor carriers miss out on the population between 18 and 21. Often, these individuals, at least those that don't go to higher education or the military, obtain employment in construction, retail, or fast food industries as they can start their careers at a younger age. The average age of a new driver being trained is 35 years old.¹⁹
- **Demographics, Gender:** Females make up nearly 47% of all U.S. workers, yet only comprise 6.6% of all truck drivers, according to the U.S. Department of Labor. The share of female drivers has remained fairly stagnant, between 4.5% and 6.6% since 2000. This is a large, untapped portion of the population for the industry. Some trucking companies have put an emphasis on female drivers, but the highest percentage of female drivers we have seen is around 20% for those fleets.
- **Lifestyle:** When new to the industry, many drivers are assigned routes that put them on the road for extended periods of time before they return home, typically a week or two. Therefore, it is not just a career, but a lifestyle that does not fit with everyone's desires or needs. Eventually, drivers who wish to can move into regional or local driving positions with tenure. This is another reason to consider drivers under 21 years old. That is the age when, in many cases, a person wouldn't mind being on the road, before starting a family.
- **More Job Alternatives Available:** Several years ago, the trucking industry was one of the few industries hiring people. Today, the job market has improved and there are more job alternatives available for current drivers and would-be truck drivers. The unemployment rate recently hit the lowest level since December 1969, according to the U.S. Department of Labor. Also according to the DOL, the construction industry has increased payrolls by nearly 1.4 million over the last five years. Most construction jobs are local and don't require travel as

¹⁵ ATA's 2017 Driver Compensation Study (www.atabusinesssolutions.com)

¹⁶ U.S. Department of Labor

¹⁷ The American Transportation Research Institute (ATRI) completed a study regarding truck driver ages. That study is available at www.truckingresearch.org

¹⁸ ATA's 2017 Driver Compensation Study (www.atabusinesssolutions.com)

¹⁹ CVTA's 2018 Legislative Agenda (<https://cvta.org/wp-content/uploads/CVTA-Legislative-Agenda-2018.pdf>)

extensive as truck driving. Additionally, these alternative jobs often carry much less responsibility and regulatory guidelines to follow.

- **Regulations:** Most of the time, regulations - like changes to truck driver hours-of-service - reduce industry productivity. Reductions in productivity exacerbate the driver shortage as it requires more trucks, and more drivers, to move the same amount of freight.

COURSE OF ACTION

There is no single cause of the driver shortage, and therefore there is not one way to solve it. Below is a brief list of market reactions and possible policy solutions to relieve the driver shortage.

- **Driver Pay Increases:** The natural market reaction to any shortage is that prices rise. In this case, the price is driver wages, which are again increasing significantly. Most fleets instituted large pay increases in 2018 as the driver shortage hit an all-time high. Many fleets also instituted guaranteed minimum weekly pay so that the drivers would have a more consistent paycheck. Sign-on bonuses are used throughout the industry as competition for drivers heats up. Expect driver pay to continue rising as long as the driver shortage continues. Good benefits are also regularly part of a total compensation package in the industry.

Below are just a few headlines from press releases issued in 2018 regarding driver compensation.

- *Covenant Transport launches first-of-its-kind \$40,000 teaming bonus (January 3, 2018)*
 - *Cargo Transporters announced huge pay increase effective April 1st (February 20, 2018)*
 - *New Driver Pay Package Announced for Ozark Motor Lines (April 26, 2018)*
 - *Tyson Foods Announces Driver Pay Increase (May 14, 2018)*
 - *Trimac Transportation announces huge increase for company drivers and owner operators (May 24, 2018)*
 - *C.R. England Announces Largest Driver Pay Increase in Company History (May 25, 2018)*
 - *Roehl Transport Accelerates Pay – now 59 CPM (July 19, 2018)*
 - *Big G Express Announces Pay Raise and New Mileage Program for Drivers (August 28, 2018)*
 - *USA Truck announces regional driver pay increase (September 10, 2018)*
 - *U.S. Xpress Enterprises, Inc. Launches “Full Ride” – A First-Of-Its-Kind College Scholarship Program Providing Full Tuition for Truck Drivers and their Dependents (September 10, 2018)*
- **More At-Home Time:** Potential drivers are often hesitant to take a job that requires so much time away from home, especially at first. The increased prevalence of retail distribution centers and use of the hub and spoke system have drastically reduced the average length-of-haul across the industry; this reduction in travel distances could and should translate to less time on the road for drivers. However, there are practical limits to how much the industry can reduce length-of-haul and increase at-home time.

- **Lower Driving Age:** Interstate driving currently has an age minimum of 21.²⁰ The 18-20 year old segment has the highest rate of unemployment of any age group, yet this is an entire segment the industry cannot access (with the exception of local in-state routes, with intra-state freight, which is generally reserved for seniority). Additionally, potential drivers are likely to have found another career path (that they are already three years into) by the time they reach the age of 21. ATA is supportive of drivers younger than 21 for interstate moves, with significantly more training than is currently required and with a significant amount of safety technology on the truck. The Developing Responsible Individuals for a Vibrant Economy (DRIVE) Safe Act would create apprenticeships that train 18-21 year olds to drive trucks in interstate commerce. The DRIVE Safe Act requires 400 hours of training, of which 240 hours are behind the wheel, in trucks that have active braking collision mitigation systems, forward facing video event capture, and governed speeds of 65 MPH at the pedal. The bill would remove the single biggest regulatory barrier underlying the truck driver shortage, while equipping young people with skills to start careers that offer livable wages with health and retirement benefits.
- **Improved Driver Image:** Unfortunately, the public perception of a truck driver sometimes has a tendency to be negative. *Trucking Moves America Forward*²¹, of which ATA is a founding member, is an example of a positive image initiative and will be working to highlight a demanding but rewarding career for potential drivers.
- **Transitioning Military Personnel to Careers as Truck Drivers:** ATA supports efforts to ease the driver shortage by facilitating the transition of military veterans into fulfilling careers in the trucking industry. These efforts include making it easier for active duty military personnel to obtain their commercial learner's permit while stationed outside of their home state as well as efforts to allow those with a military occupation of truck driver to have the military truck driver training and experience counted toward the civilian licensing requirements.
- **Better Treatment and Reduced Wait Times by the Supply Chain:** Compounding an already challenging lifestyle, drivers often complain of mistreatment at shipping and receiving facilities. Complaints range from restricting access to restrooms to having to wait extended periods of time before the trailer is loaded or unloaded. Improving the experience for drivers at drop-off and pickup locations would provide for a more attractive career choice. All companies in the supply chain, including trucking companies, shippers, and receivers, need to treat drivers with the respect that they deserve. When shippers and receivers reduce driver waiting times, they are increasing effective capacity. In other words, drivers, from less waiting, can drive more within the hours-of-service limits. As an example, if a driver can boost driving from 8,500 miles per month to 9,000 miles, that is an increase of 5.9%. If all drivers

²⁰ Interstate driving is often thought of as driving across state lines. While this is true, it also refers to the freight. If the freight is interstate in nature, then an intra-state driver younger than 21 cannot haul that freight, even solely within a state.

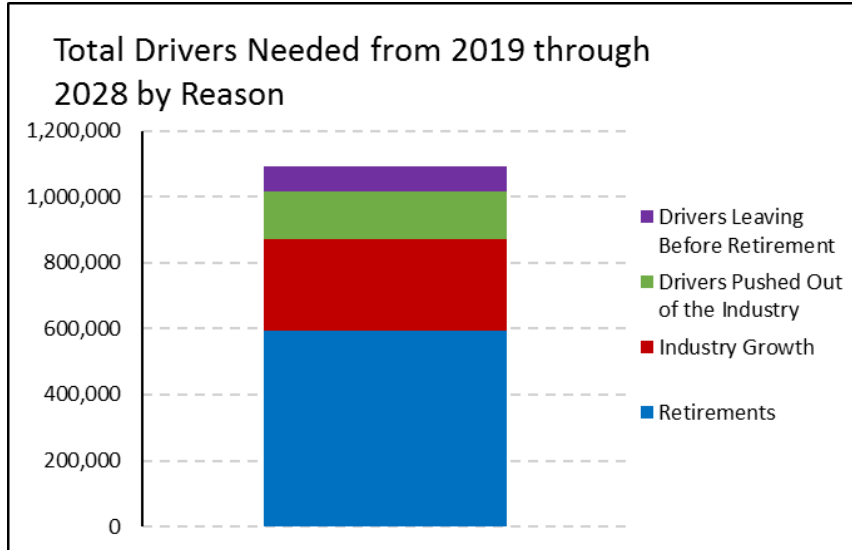
²¹ www.truckingmovesamerica.com

were able to do that through reduced waiting, industry capacity increases by nearly 6% without adding a single truck to the road.

- **Autonomous Trucks:** While we are still decades away from truly driverless Class 8 trucks running on the highway as a normal part of the industry; driver-assist technologies in heavy-duty tractor trailers could eventually have a positive impact on the driver shortage by making the job less stressful, and the more sophisticated technology may also attract younger individuals to truck driving. Many years from now and well beyond the dates of this report, one could envision an environment when the longer, line-haul portion of truck freight movements are completed by autonomous trucks and local pick-up and delivery routes are completed by drivers. However, motor carriers should not count on this being an option for many decades.
- **Commercial Driver License Testing Recognition:** More and more driver candidates are learning the skills and knowledge necessary to enter the trucking industry at training facilities that are physically located outside the state of their domicile. In the Federal Motor Carrier Safety Administration's (FMCSA) 2011 CDL Testing and CLP Standards Rule, FMCSA mandated that an individual's state of domicile must accept the results of a CDL *skills* test that was administered out-of-state; however, the rule does not require the state of domicile to also accept the results of an out-of-state *knowledge* test. As a result, driver candidates who obtain training out-of-state are required to travel back to their state of domicile to obtain their relevant credential, creating an unnecessary barrier to entry through financial burdens on those who can least afford it and skill degradation. This hurdle limits carriers' ability to expand and scale the hiring of female and minority drivers at rates above the industry average.

TRUCK DRIVERS NEEDED IN THE FUTURE

As part of this analysis, we considered how many new drivers will be needed in the industry over the next 10 years. When accounting for both industry growth and replacing drivers leaving their jobs, either from retirement or other reasons, the industry will need nearly 1.1 million new drivers over the coming decade, or just under 110,000 per year on average.



Retirement and industry growth contribute to the bulk of future driver demand. With an aging population of current drivers, retirement accounts for over 54% of future need. The second largest factor is industry growth at 25%, or more than 270,000 drivers

through 2028. Drivers also leave the industry prior to retirement. In some cases, they find that the lifestyle just isn't for them and they pursue other opportunities that allow them to return home every night, like construction jobs. In other cases, the driver does not choose to leave the industry, but is dismissed because of a driving incident or other disqualification. These two groups combined make up 20% of the annual demand for drivers.

