

TRUCK DRIVER SHORTAGE ANALYSIS

2017



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BACKGROUND

Over 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 45,000 by 2015. In 2016, the industry still suffered a shortage, but it was less than in 2015 as industry freight volumes softened. As this report highlights, the driver shortfall is expected to rise by the end of 2017 to the highest level on record as freight volumes recover and the industry transitions to the use of electronic logging devices to record driver hours-of-service.

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 49. 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 truckload labor pool to recruit drivers.

Additionally, the industry has historically struggled to attract all segments of the population as just 6% of truck drivers in 2016 were women. This percentage hasn't changed much historically, ranging from 4.5% to 6% over the last 15 years. In 2016, 38.7% of drivers were minorities, which has jumped 12 percentage points from 26.6% in 2001.²

Today, motor carriers³ 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.

The driver shortage is really a problem for the entire supply chain as 70.6% of all freight tonnage is moved on the nation's highways.⁴ According to the American Transportation Research Institute, 43% of trucking's operational costs is driver compensation,⁵ which is the largest operational cost for a motor carrier. Additionally, as volumes increase, the existing driver pool is only more strained.

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 percentage of females and minorities comes from the Department of Labor and published in ATA's American Trucking Trends 2017. (www.atabusinesssolutions.com)

³ Throughout this report, the terms "motor carrier", "carrier", "trucking company", and "fleet" are used interchangeably.

⁴ ATA's Freight Transportation Forecast 2017 to 2028 (www.atabusinesssolutions.com)

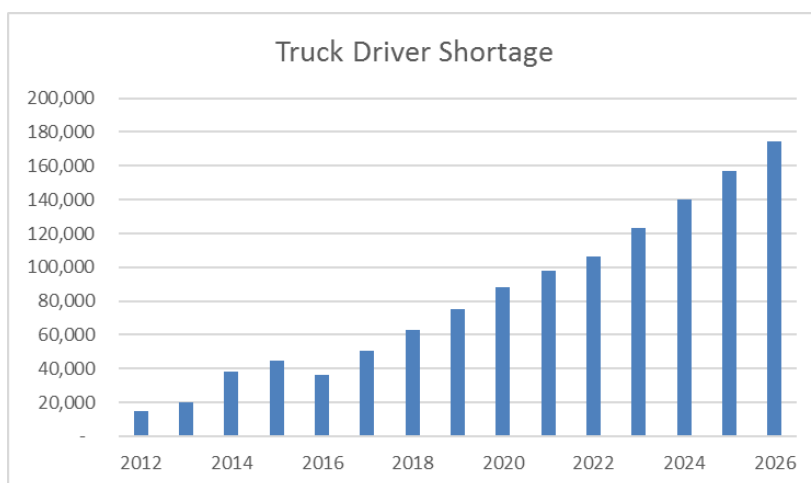
⁵ ATRI, An Analysis of the Operational Costs of Trucking (www.truckingresearch.org)

KEY FINDINGS

- In 2016, the trucking industry was short roughly 36,500 drivers, which was down from 45,000 in 2015. However, the shortage is expected to surpass 50,000 by the end of 2017.
- If current trends hold, the shortage could swell to over 174,000 by 2026.
- While **this analysis** does account for a modest productivity loss from changing to an electronic logging device from a paper logbook for recording truck driver hours-of-service, it **generally does not consider the impact of other potential regulations in the future**. Instead, it **simply demonstrates the difference between 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 study, 88% of fleets said they were getting enough applicants, but many were simply not qualified.⁶ 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**, which are running high in the for-hire truckload industry, **are not the same**. Turnover is a reflection of demand for drivers, with higher rates generally indicating strong demand for drivers. 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 take drivers from other carriers by offering sign-on bonuses, higher pay, newer trucks, and better routes. However, the shortage is calculated

⁶ ATA Benchmarking Guide for Driver Recruitment & Retention

in a completely different manner and churn in the industry is not included in the shortage calculation.

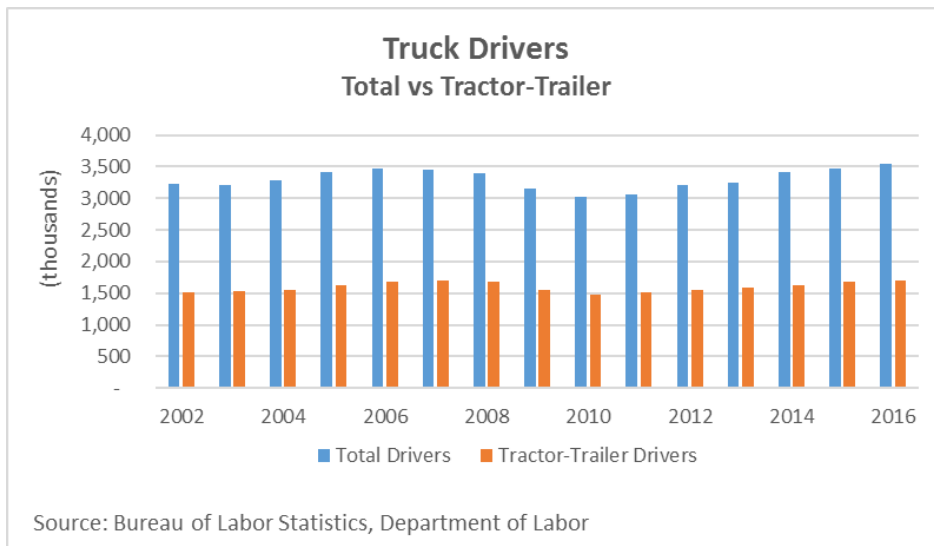
- Over the next decade, the trucking industry will need to hire roughly 898,000 new drivers, or an average of nearly 90,000 per year. Replacing retiring truck drivers will be by far the largest factor, accounting for nearly half of new driver hires (49%). The second largest factor will be industry growth, accounting for 28% of new driver hires.

METHODOLOGY

The difficulty in calculating the driver shortage is that one cannot simply survey motor carriers for the number of drivers⁷ that they need and sum them up, because this would lead to a much-inflated number. Today, most 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 that Shipper X has 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).⁸ Therefore, this analysis is for drivers of tractor-trailers.

⁷ This analysis includes both employee drivers and independent contractors. However, data limitations prevent us from separating out these two types.

⁸ Of the 7.4 million people employed throughout the economy in jobs related to trucking activity, 3.5 million were truck drivers in 2016. 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 million trucks on the road today that require a

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.

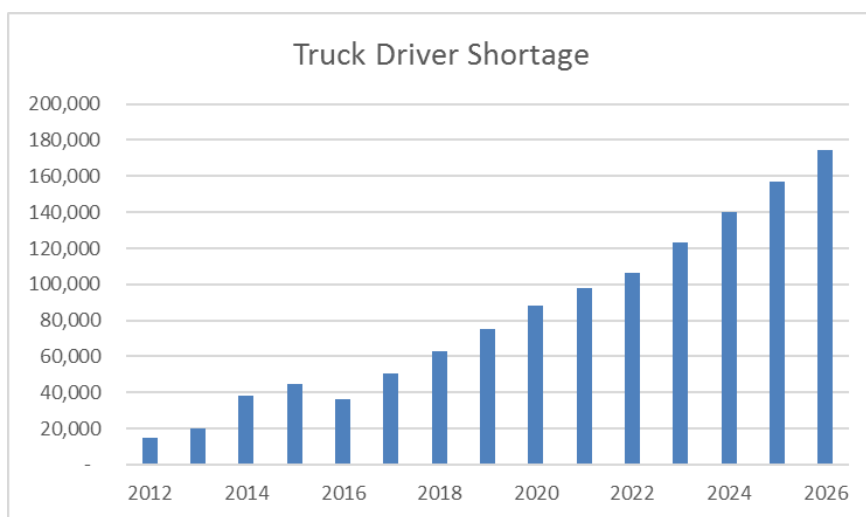
After calculating both the demand and supply of drivers, we match up the two to determine the surplus, or most often, shortage of drivers. It is important to note that this analysis assumes no changes in regulations beyond 2017, including changes in the age requirement for driving an interstate tractor-trailer, 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.

driver to have some sort of CDL. Of those trucks, 1.74 million are heavy and tractor-trailers. 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 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 also beginning to struggle 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 2016, the shortage of truck drivers was roughly 36,500. In 2017, we expect the shortage to increase to 50,700, the highest level ever recorded. Prior to this, the highest level was roughly 45,000 in 2015.



Looking ahead to 2018, with an improving economy, strong construction in part due to rebuilding from 2017 natural disasters, and the transition to electronic logging devices for truck driver hours-of-service regulations, we forecast the shortage to jump to over 63,000. If nothing changes in the trend line by

2026, the shortage could surpass 174,000. 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 70.6% 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 highway to the rails).

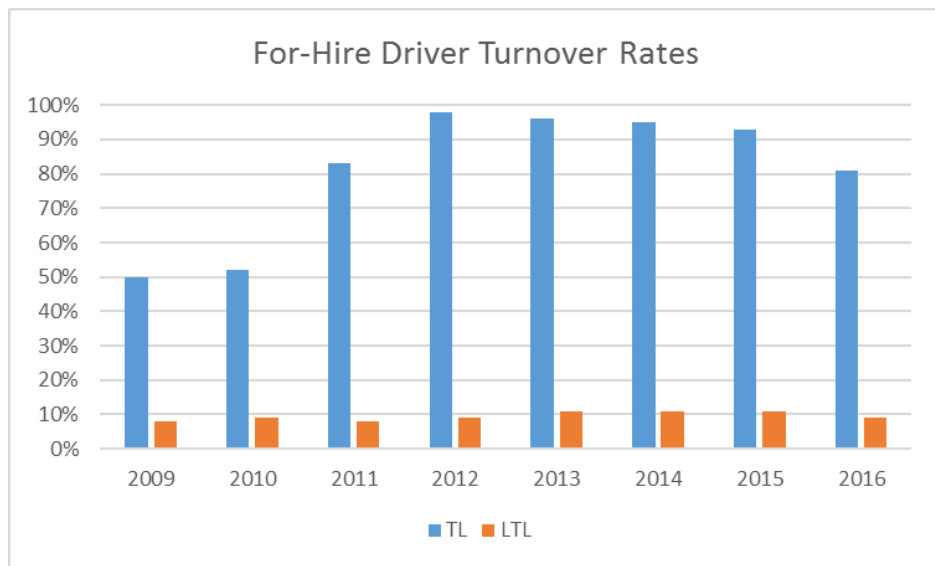
Many factors, both positive and negative, could impact the shortage in the years ahead. For example, if there are any new government regulations on the industry—and often regulations on

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 requirement for interstate drivers from the current 21 years old, 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. This is industry churn—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 the second quarter of 2017, the latest data



available, turnover in the for-hire truckload sector reached a 90% annualized rate⁹, 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 *2014 Driver Compensation Study*, roughly 50% of for-hire truckload carriers were offering a sign-on bonus with a median bonus amount of \$1,500.¹⁰ It is likely that the percentage of truckload carriers offering a sign-on bonus is high today as well.¹¹

⁹ For-hire truckload and LTL driver turnover rates are published quarterly by ATA.

¹⁰ ATA's 2014 Driver Compensation Report (www.atabusinesssolutions.com)

¹¹ ATA is currently collecting data to update these 2014 numbers and will publish the data in early 2018.

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 2016, LTL carriers had a turnover rate of 9%, while private fleets reported a turnover rate of just 8% in 2014.¹²

¹² 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 49,¹³ compared with just 42 for all U.S. workers.¹⁴ ¹⁵ Some sectors within the trucking industry have an even higher median age. For example, private fleet drivers have a median age of 52 years old.¹⁶ 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.
- **Demographics, Gender:** Females make up nearly 47% of all U.S. workers, yet only comprise 6% of all truck drivers, according to the U.S. Department of Labor. The share of female drivers has remained stagnant between 4.5% and 6% since 2000. This is a large, untapped portion of the population.
- **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 that wish to can move into regional or local driving positions with tenure.
- **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. For example, according to the U.S. Department of Labor, the construction industry has increased payrolls by nearly 1.3 million over the last five years. Most construction jobs are local and don't require travel as extensive as truck driving. Additionally, these alternative jobs often carry much less responsibility and regulatory guidelines to adhere to.
- **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 thus more drivers, to move the same amount of freight.

¹³ ATA's 2014 Driver Compensation Study (www.atabusinesssolutions.com)

¹⁴ U.S. Department of Labor

¹⁵ The American Transportation Research Institute (ATRI) completed a study regarding truck driver ages. That study is available at www.truckingresearch.org

¹⁶ ATA's 2014 Driver Compensation Study (www.atabusinesssolutions.com)

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.

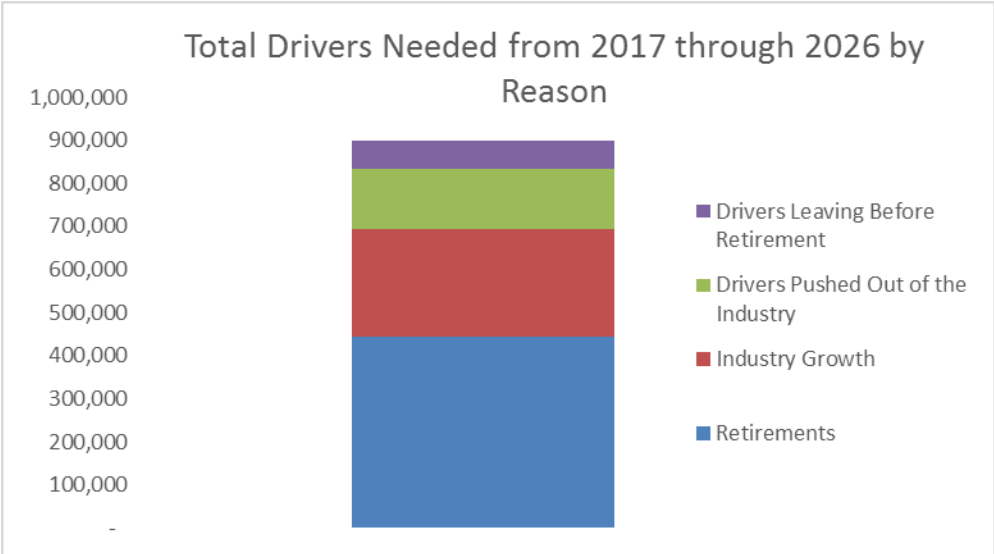
- **Driver Pay Increases:** The natural market reaction to any shortage is that prices rise. In this case, price is driver wages, which are again increasing significantly. Most fleets instituted large pay increases in the summer of 2014 with many repeating the increases again in 2015. Even with the soft freight environment in 2016, many fleets increased pay rates last year as well. Today, 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 part of a total compensation package in the industry.
- **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. 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, 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 21. The Federal Motor Carrier Safety Administration is preparing to conduct a pilot program that will study the safety of commercial motor vehicle drivers under the age of 21. Unfortunately, despite ATA's calls for broad participation, FMCSA has limited involvement in the program to current or recently separated military personnel, severely restricting the pool of potential participants. This is why ATA has supported the Waving Hindrances to Economic Enterprise and Labor Act, or WHEEL Act, which would expand the pool of potential participants to any trained CDL driver between the ages of 18 and 21 that has a clean driving record.
- **Improved Driver Image:** Unfortunately, the public perception of a truck driver has a tendency to be negative. *Trucking Moves America Forward*¹⁷, of which ATA is a founding member, is an example of a positive image initiative and will hopefully highlight a demanding but rewarding career for potential drivers.

¹⁷ www.truckingmovesamerica.com

- **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 by the Supply Chain:** Compounding the already difficult 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.
- **Autonomous Trucks:** While we are still years 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 years.

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 over 897,500 new drivers over the coming decade, or 89,750 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 49% of future need. The second largest factor is industry growth at 28%, or more than 250,000 drivers through 2026.

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 23% of the annual demand for drivers.

