



Rental  
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Logistics



# TRANSPORTATION TRENDS AND INSIGHTS

A Collection of Articles About the Transportation Industry



## Introduction

Each month, Penske publishes “Transportation Insights” on topics of interest to those in the industry. Most subjects are timely, but others are applicable on an ongoing basis. It is the latter that we have chosen to bundle as an e-book, offering important information on industry talent shortages, driver health and well-being, and safety and compliance.

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## Driver Shortage Limiting Freight Capacity

Concerns over the driver shortage have been dotting the trucking industry for years. Now productivity-reducing truck regulations have exacerbated the shortage, which is limiting freight capacity despite the strong growth in the size of the truck fleet in 2014.

"The truck driver shortage is having a dampening effect on freight movement," said Rosalyn Wilson, author of the *25th Annual State of Logistics Report* that was released in July 2014 by the Council of Supply Chain Management Professionals and presented by Penske Logistics.

During a discussion of the report, Wilson cited new Federal Motor Carrier Safety Administration (FMCSA) hours-of-service (HOS) rules and other safety regulations as main contributors to the shortage, saying "an increasing number of drivers are walking away from the industry because of increased burden and decreased wages, and potential new drivers must factor this into their decision."

She added that the driver shortage is pushing up the cost of recruiting and retaining drivers. To recruit drivers, fleets are increasing pay, offering signing bonuses and working to improve drivers' routes so they have more time at home, all of which increase expenses.

"The prohibitive cost of adding new drivers reduced truckload capacity by 2.5 percent in 2013," Wilson said.





## Driver Shortage Limiting Freight Capacity

What's more, as costs continue to rise, particularly to attract and retain existing drivers, the industry is experiencing a rising number of trucking failures, further straining capacity.

Industry analysts expect the shortage to worsen. If freight demand grows as it is projected to, the driver shortage could balloon to nearly 240,000 drivers by 2022.

"Today, the industry has in the range of 30,000 to 35,000 unfilled truck driver jobs," said Bob Costello, chief economist for the American Trucking Associations.

"As the industry starts to haul more because demand goes up, we'll need to add more drivers — nearly 100,000 annually over the next decade — in order to keep pace."

Wilson said concerns over the shortage are pushing some fleets to utilize dedicated contract carriage and third-party logistics providers.

Wilson said the industry needs to work harder at recruiting younger drivers.

"We don't have the numbers in the lower age groups. We're not where we need to be in terms of recruiting younger drivers," Wilson said in a call discussing the report, which has tracked and measured all costs associated with moving

freight through the U.S. supply chain since 1988. Each year, the report presents an overview of the economy during the past year, the logistics industry's key trends, and the total U.S. logistics costs.

## Trucking Industry Faces a Diesel Mechanic Shortage

**T**he trucking industry is facing a diesel mechanic shortage as a large number of today's diesel mechanics are Baby Boomers nearing retirement and younger technicians are not entering the industry at a fast enough rate to fill the diesel mechanic pipeline.

The U.S. Department of Labor estimates that over one million jobs exist today in the auto, diesel and collision repair industries with a growth of 17 percent projected through 2020. The Department of Labor also estimates that mechanic shops will need about 200,000 more diesel technicians over the next 10 years to fill the new positions that will be created and to replace positions that open up when workers change fields or retire.

Industry research estimates that 10,000 Baby Boomers will reach retirement every day until 2029.

Industry experts are saying that schools within the U.S. are graduating about 35,000 technicians annually.

That includes auto, collision and diesel, but unfortunately only about 10 percent of those graduates are diesel and truck technicians.

For mechanics, training is important, but so is experience. In most cases it takes mechanics three to five years to gain the experience necessary to be a master technician. Techs are



often drawn to maintenance shops that will provide continuing education along with learning opportunities.

Many in the industry expect the basic laws of supply and demand to take effect as the shortage intensifies, which would mean the costs of repairs would increase.

Contract maintenance can help carriers minimize the impact of a mechanic shortage and the potential cost increases it could bring. The mechanic shortage, much like the driver shortage, could potentially lead more and more carriers to seek out guaranteed service from a third-party provider. The American Trucking Associations' Technology and Maintenance Council has been working to raise the profile and image of diesel technicians through several of its campaigns, which could help recruit new drivers. Employers can also aid in their recruiting by creating a clear career path for techs.



## Trucking Industry Turns to Veterans to Fill Jobs

**A**s the driver shortage worsens, those within the trucking industry are turning to the nation's veterans in hopes that they can create a win-win solution for companies looking for qualified employees and veterans returning to civilian life.

A number of companies, including Penske, have committed to the Chamber of Commerce Foundation's Hiring our Heroes campaign. To date, Hiring Our Heroes has inspired more than 1,500 businesses of all sizes to hire 236,000 veterans, transitioning service members and military spouses.

Recently, American Trucking Associations (ATA) pledged that its members will hire 100,000 military veterans over the next two years as part of the program.

Duane Long, chairman of ATA and Longistics, based in Raleigh, North Carolina, said, "It is rare in business and in life to find an opportunity that is a win-win for all involved."

Penske has also joined with Veteran Recruiting Services and other employers to support the White House Joining Forces Initiative to hire at least 50,000 veterans and military spouses by 2018. In 2013, 14 percent of Penske new-hires were veterans.

The government is trying to simplify the transition to the transportation industry for veterans. Earlier this year, the





## Trucking Industry Turns to Veterans to Fill Jobs

U.S. Department of Transportation's (DOT) Federal Motor Carrier Safety Administration (FMCSA) announced its waiver program that helps experienced veterans and active duty personnel transition into civilian jobs as commercial truck drivers had been expanded to all 50 states and the District of Columbia.

Previously the waiver was only available in certain states. Now every state licensing agency has the authority to waive the skills test portion of the CDL application for active-duty and recently discharged members of the U.S. Armed Services, the National Guard and Reserve, and the U.S. Coast Guard if those individuals have experience driving comparable military vehicles.

The DOT said more than 6,000 people have used the waiver program to obtain either Class A or Class B commercial drivers licenses since the program launched in 2011.

The DOT also sees education as a means to encourage veterans to enter the transportation industry. FMCSA recently awarded \$1 million in grants to nine technical and community colleges across the country to help train returning military veterans for jobs as commercial truck drivers.

"Those that we entrust to protect and serve our nation deserve opportunities that utilize the skills and training they received on the job on military bases overseas and at

home," said U.S. Transportation Secretary Anthony Foxx.

"We can think of none more appropriate to safeguard our highways as commercial vehicle drivers than the thousands of veterans who have already proven they can safely handle large vehicles under extremely stressful circumstances."

ATA has estimated that the industry will need to fill almost 1 million driver positions in the next 10 years.

## Providing Flexibility Can Keep Older Drivers on the Job

**T**oday, the average age of a professional truck driver in the U.S. is around 50, according to the Bureau of Labor Statistics, and the number of drivers who are nearing retirement continues to grow. The Social Security Administration predicts that by 2029 about a quarter of the population will be at or above retirement age.

Aging Baby Boomers account for approximately half of the drop in the labor force participation rate since 2007, the White House Council of Economic Advisers reported. Industry research has found that 42 percent of Baby Boomers — those Americans born between 1946 and 1964 — want to cycle between periods of work and leisure during retirement.

To help attract and retain the aging driver population, some carriers are providing drivers with increased flexibility and catering to their leisure needs. For example, during the application process, the company now asks drivers about their preferred leisure activities and is incorporating the leisure message into all their public relations, print, video and social media outreach.

Across the industry, recruiters are seeing drivers who are choosing not to retire when they hit 65 and also drivers who retired and then decided to come back to work. If companies can provide time off for cruises, hunting or to be with family, it is a win-win for everyone involved.



To attract and keep older drivers, successful recruiters should communicate with them in the method they prefer. Baby Boomers often like to talk in person or by telephone. They like email and use computers, but they often look for jobs in print publications. This can be very different from how Generation X and Generation Y prefer to communicate, which can be via email or text.

Studies conducted by the Institute of Advanced Motorists and Workers' Comp Insider have found that overall, older drivers are safer than younger drivers as the older drivers tended to be more cautious.



## Five Ways Professional Drivers Can Improve Their Health

**F**or many professional drivers, sitting all day can create a range of health issues. Fortunately, there are several ways drivers can improve their health and minimize their risk of developing serious illnesses, such as heart disease, high blood pressure and high cholesterol. Helping truck drivers get healthier can also improve safety on our highways.

There are some general tips for drivers on the Department of Transportation's (DOT) [Federal Motor Carrier Safety Administration \(FMCSA\) website](#). [Kevin A. Vrablik, MD, MPH](#), a board-certified occupational medicine physician with Lehigh Valley Health Network in Allentown, Pennsylvania, and an FMCSA-certified commercial driver medical examiner, recommends five ways drivers can boost their overall health.

### 1. Achieve and Maintain a Healthy Weight

Driving is a sedentary job. By virtue of that type of work, professional drivers are not expending a lot of energy. Losing weight requires people to expend more calories than they take in, and there are simple things they can do to add some energy expenditure to their day.

Some drivers are able to get out when their load is being taken out of their trailer or they can try to make a short amount of time for exercise when they have to stop and fuel. Even something as simple as walking three times around the trailer can be helpful. There are drivers who are actually



crafting [entire workout routines](#) that they can do during stops.

### 2. Make Better Food Choices

Drivers are pressed for time. They have to make their deliveries on time and can only drive a certain number of hours a day. A lot of times that forces people to pick quick, cheap, unhealthy food for energy.

Fortunately, more and more restaurants have some healthier options on the menu. Drivers can also pack their own lunches from home and store food in their refrigerator in the truck. Instead of a candy bar they can have carrots and some ranch or blue cheese dressing; peanut



## Five Ways Professional Drivers Can Improve Their Health

butter crackers; or apples with peanut butter instead of a bag of chips. Carriers can help their drivers by [educating](#) them about what is healthy or unhealthy and how to make the right choices.

### 3. Stretch Regularly

Sitting for a long time in one position and being bounced around in a seat that may not have a really good pneumatic shock-absorbing device may pose a risk for [back injuries or pain](#). It could also aggravate underlying problems a driver may have.

Getting up and doing some exercises every so often will help keep the back in better shape. There are also some simple back stretches or exercises drivers can do when they are taking a break or when they are done for the day.

### 4. Get Tested for Sleep Apnea

A [study](#) conducted by the University of Pennsylvania and sponsored by FMCSA and the American Transportation Research Institute found that almost one-third of commercial truck drivers have mild to severe sleep apnea — a breathing-related sleep disorder that causes brief interruptions of breathing during sleep due to the collapse of the airway at night, resulting in poor sleep and daytime drowsiness. Sleep apnea is mostly related to weight, but there are people of normal weight who have sleep apnea.

Drivers should be vigilant in watching for [symptoms](#), which include loud snoring, morning headaches and nausea, gasping while sleeping and excessive daytime sleepiness. Drivers can undergo a sleep study to diagnose sleep apnea. If they are diagnosed, they wear a mask during sleep that keeps the airway open.

### 5. Avoid Excess Sun Exposure

If drivers consistently drive with their window down or rest their arm on the door with an open window, they could be exposed to harmful ultraviolet rays. Wearing sunscreen and long sleeves can minimize sun exposure. So will rolling up the window as the window's glass will filter out UV rays.



## Ergonomic Tips for the Professional Driver

From the National Safety Council

**S**itting for long periods of time can create pressure on the spine and result in lower back pain. This situation is most true for people who make their living as drivers and who are exposed to vibration effects on the road. Over time, the combination of bad posture and vibration can have a cumulative effect.

In transportation, slouching or sitting with a rounded posture can significantly impact the spine, particularly the disc. But if drivers position their seats correctly to help maintain good posture, the additional lumbar support will help alleviate intra-disc pressure and muscle strain.

Professional drivers should try to follow these suggestions:

1. Maintain your line of sight and then find a good sitting position with your feet on the ground so you have the ability to shift your weight.
2. Adjust the seat back angle by starting completely upright at a 90-degree angle, then tilt the back between eight and 12 degrees. This adjustment lowers pressure on the spine.
3. Adjust the lumbar supports to prevent lower back strain.
4. Make sure you can engage the accelerator, brake and clutch without reaching.
5. Lay the steering column back into the hands and make sure you do not elevate your shoulders.
6. Use armrests to prevent pressure on discs when not driving in heavy traffic.
7. Do not engage in very physical activities after driving for a long period.
8. Prolonged seat posture makes your spine more vulnerable to injuries.





## Improved Seat Belt Use Could Save Lives, Reduce CSA Violations

Even though federal law has required professional truck drivers to wear seat belts since 1970, one in six still fails to buckle up. Those numbers result in unnecessary fatalities, the Centers for Disease Control and Prevention (CDC) said during its recent teleconference, [Keeping Truckers Safe on the Road](#). In 2012, 697 truckers died in crashes and 26,000 were injured, the CDC reported.

During the [presentation](#), Dr. Stephanie Pratt said that 35 percent of truckers who died in 2012 crashes had skipped seat belts, but up to 40 percent would have lived if they had buckled up. “The problem is that 65 percent of the truck drivers who die on the job, die in a motor vehicle crash. We’ve seen recent increases in the deaths of large truck occupants,” she said.

### [Safety Starts at the Top](#)

According to Pratt, drivers who never wore their belts were also more likely to work for an employer that didn’t have a written safety program and to report having had at least one moving violation in the past year.

### [Don’t Shed the Seat Belt in Summer](#)

A report from the data analysis company Vigillo has found that citations for failure to use seat belts tend to peak in the summer and decrease in the winter. The report, which reviewed data from 2013 and 2014, found two peak periods existed—July to August 2013 and May through September 2014. The

period with the fewest seat belt tickets ran from December 2013 to February 2014, with approximately 3,000 violations per month.

Steven Bryan, CEO of Vigillo, said that Pennsylvania is the most aggressive state in issuing seat belt tickets to truck drivers, writing more than 10,000 tickets per month. In comparison, no other state issued more than 6,000. Bryan said most of the violations were issued during roadside inspections where suspect vehicles were pulled over by law enforcement. Others were issued during inspections at fixed sites, such as weigh stations.

## Carriers, Government Continue to Focus on Sleep Apnea

In an industry where drivers need to be alert at all times, sleep apnea, which can rob individuals of a good night's rest, remains a concern. Sleep apnea causes sufferers to stop breathing for periods of time while they sleep, the U.S. National Library of Medicine reported. That decreases the amount of oxygen that goes to the brain, which can make people less alert or fall asleep unexpectedly during the day.

Sleep apnea is one of the major contributors to daytime sleepiness, and the Department of Transportation's (DOT) Federal Motor Carrier Safety Administration (FMCSA) reports that 28 percent of all truck drivers suffer from mild to severe sleep apnea.

Several carriers are developing in-house wellness programs to address the issue and the FMCSA is working on regulatory guidance that would urge medical examiners to require that some obese truck drivers be screened for obstructive sleep apnea before being allowed to drive. The agency has been working on the guidance for years and was expected to release it last year. FMCSA said it is "just about ready" to release the guidance, which will not have the power of a regulation or law.

Many in the industry expect that FMCSA will ask that medical examiners who perform physical exams on commercial drivers to refer drivers with a body mass



index (BMI) above 35 to get obstructive sleep apnea testing. BMI is a factor of a person's weight and height. A BMI of 35 or higher is categorized as "severely" obese, and obesity is one of the top risk factors for sleep apnea.

If a driver is found to have sleep apnea, FMCSA's guidance would recommend that he or she receive a medical certification that is conditional on treating the disorder.

Once the proposed guidance is published, FMCSA will gather comments from the public prior to making it final. FMCSA is expected to propose a regulation to make the sleep apnea testing and treatment mandatory for obese commercial truck drivers, but that may be several years away.

Several carriers are addressing sleep apnea concerns by creating wellness programs. Individual components of



## Carriers, Government Continue to Focus on Sleep Apnea

these programs include weight management, smoking cessation and nutritional counseling in addition to sleep apnea screenings. Fleets are also providing drivers with gym memberships, diabetes testing, exercise classes, stress management, mental health counseling and blood chemistry testing.

By addressing sleep apnea, carriers can increase their overall safety. The DOT reported that drivers with severe sleep apnea quadruple their chance of being involved in a severe accident over a seven-year period. In addition, a recent study by the University of Minnesota found that severely obese truck drivers — those with a BMI of 35 or higher — are 54 percent more likely than their peers to be involved in preventable crashes in their first two years on the job.

\*Source: Federal Motor  
Carrier Safety Association

### Risk Factors for Sleep Apnea\*

- A family history of sleep apnea
- Having a small upper airway
- Being overweight
- Having a recessed chin, small jaw or a large overbite
- A large neck size (17 inches or greater for men, 16 inches or greater for women)
- Tobacco and alcohol use
- Being age 40 or older

### Symptoms of Sleep Apnea\*

- Loud snoring
- Morning headaches and nausea
- Gasping or choking while sleeping
- Excessive daytime sleepiness
- Irritability and/or feelings of depression
- Disturbed sleep
- Concentration and memory problems
- Frequent nighttime urination



## To Minimize CSA Violations in the Summer, Tires Warrant Special Attention

When it comes to Compliance, Safety, Accountability (CSA) violations, the top two contributors in the maintenance categories are brake lights and tires, and that holds true both during the winter and in the summer months. However, during summer months, carriers and drivers should pay special attention to tire maintenance to minimize premature wear and tire failures, industry experts said. What's more, carriers should also take advantage of the summer months to clean out residual chemicals that may have built up during the winter.

According to the Commercial Vehicle Safety Alliance, there aren't a lot of violations that are seasonal in nature, but the main thing that could be increased in the summer months is tire violations. The heat on roads in the summer takes its toll on tires, so inspecting tires is especially important in the summer months.

To minimize tire damage, drivers should pay special attention to tire pressures and ensure proper tire inflation. If tires are slightly under-inflated, they're going to be flexing more and that always builds up heat in the tires. That can lead to more tire wear and potential tire failure. In the summer, as the outside air temperatures increase, so does tire pressure. It's also important for carriers to try and achieve consistent, cold inflation pressure, and automatic tire inflation systems can help carriers achieve that consistency.





## To Minimize CSA Violations in the Summer, Tires Warrant Special Attention

Drivers may also see more corrosion occurring in the summer as a result of the harsh chemicals that were used to de-ice roads during the winter. In the summer, carriers might want to clean out any chemicals that are hung up in components and be on the lookout for corrosion.

While the top violations tend to be fairly consistent year after year, knowing what the top violations are can help carriers minimize their risk. The Federal Motor Carrier Safety Administration reported that the top 10 vehicle violations at road-side inspections typically include:

- Operating Vehicle Not Having The Required Operable Lamps
- Tire—Other Tread Depth Less Than 2/32 of an Inch
- Clamp/Roto-Chamber Type Brake(s) Out of Adjustment
- Inspection/Repair and Maintenance Parts and Accessories
- Oil and/or Grease Leak
- No/Discharged/Unsecured Fire Extinguisher
- Operating a Commercial Motor Vehicle Without a Periodic Inspection
- Failing to Secure Brake Hose/Tubing Against Mechanical Damage
- No/Defective Lighting Devices/Reflective Devices Projected
- Inoperative Turn Signal

The top 10 driver violations at road-side inspections typically include:

- Log Violation (General/Form and Manner)
- Non-English Speaking Driver
- Driver's Record-Of-Duty Status Not Current
- State/Local Laws — Speeding 6-10 Miles Per Hour Over the Speed Limit
- Driving Beyond 14-Hour Duty Period
- Failing To Use Seat Belt While Operating a Commercial Motor Vehicle
- Operating a Property-Carrying Vehicle Without Possessing a Valid Medical Certificate
- Failure To Obey Traffic Control Device
- False Report Of Driver's Record-of-Duty Status
- Driver Not In Possession Of Medical Certificate

## Six Summer Maintenance Tips for Class 8 Tractors

While proper preventive maintenance (PM) is important year round, summer temperatures can create a different set of maintenance needs for Class 8 trucks. Tire pressures, electrical systems and coolant all need extra attention as summer approaches, and carriers can improve summer maintenance programs with these six tips:

### 1. Check Tire Pressure

Proper tire pressure helps improve tire life and fuel economy. Although tires should be examined in every PM inspection, tires may need special care heading into the summer months for several different reasons.

First, carriers and drivers likely added air to tires in the winter months since tire pressure drops as temperatures decrease. But, as temperatures increase, so will the pressure, leading to the risk that tires could become overinflated as the thermometer rises.

"If you take what we just went through in the Northern climates, when you go from 20 below zero and come out of a season at zero or even 32 degrees, air pressures could increase," said Mike Hasinec, vice president, maintenance systems/support, Penske Truck Leasing.

Second, tires tend to run hotter and wear faster in the warm weather, according to Mike Woods, diesel education



program manager at Universal Technical Institute's Lisle, Illinois campus. "Also, the tread portion of the tires become softer in the summer months, making them more susceptible to punctures from road debris such as metal objects, screws, nails, etc.," Woods said.

What's more, when air pressure is inaccurate, the tire flexes in ways it wasn't designed to, changing the shape of the tire's footprint, which also results in irregular wear patterns and reduced tread life. In addition, underinflated tires build up excessive heat, potentially causing premature failure.

Hasinec said that most casings you see on the side of the road in the summer months were damaged due to under-inflation. "It is critical to maintain proper tire pressure. When you don't have a tire properly inflated, that tire's temperature increases drastically," he said.





## Six Summer Maintenance Tips for Class 8 Tractors

"To improve tire care, some fleets have more specific tire checks performed during the driver's pre-trip inspection or during the scheduled PM in the summer months," Woods noted.

Hasinec suggested that carriers pay extra attention to trailer tires. "Probably the most neglected units are the trailers. There are three to four trailers per power unit and they don't always get the same thorough inspection as a tractor does," he said.

Checking and adjusting the tire inflation pressure with an accurate tire pressure gauge is critical. All tire pressure gauges used to measure tire pressure should be checked periodically for accuracy and calibrated as per the gauge manufacturer guidelines.

### 2. Examine the Battery

Hasinec said many people don't realize that a growing number of battery failures take place in the summer. "In the past you'd see a lot of your battery failures take place in the winter," he explained, adding that with new engine technology, particularly in sleepers where they located batteries under the cab, temperatures have increased and the number of battery failures in the summer months is on the rise.

### 3. Check Cooling and Electrical Systems

Cooling and electrical systems should be checked regularly throughout the year, and inadequate or improper service of these systems can often lead to heat-related failures during the hot weather.

The engine radiator, exhaust gas recirculation (EGR) coolers and transmission cooler need to operate properly to maintain the proper engine and transmission temperatures. Penske checks cooling systems on every PM inspection, and Hasinec said it is important to maintain a good 50/50 mix throughout the year, noting that it helps with boiling points as well as freezing points.

Hasinec added that one of the more predominant things that are overlooked on a coolant system is the radiator cap. "They keep the systems under pressure, and you should pressure-test those when you pressure-test the system," he said. "The caps today are better than they used to be, but they still fail."

Electronic component failures can be caused by damaged or missing heat guards, heat shields or heat deflectors, especially within those components found near the exhaust system after-treatment devices. "Excessive heat can also melt or make the plastic electrical connectors brittle. This



## Six Summer Maintenance Tips for Class 8 Tractors

can lead to electrical malfunctions caused by poor connections at the electronic control units, sensors and solenoids that control various vehicle systems,” said Woods.

### 4. Get the AC Ready

The air conditioning (AC) system of the cab and sleeper bunk should be thoroughly checked before the summer. Be sure to check that the engine fan/clutch is activated and engages properly when the AC system is turned on as per the OEM-recommended guidelines.

“The AC system typically interfaces with the electronic engine controls and abnormal operation conditions within the AC refrigerant subsystem could trigger fault codes,” Woods said.

“These faults should be investigated, repaired and cleared before the vehicle is placed back into service.”

### 5. Focus on Refrigeration Units

Warm temperatures mean the reefer units on refrigerated trailers face higher demand. To ensure they run properly as outdoor temperatures increase, carriers should inspect them regularly.

### 6. Check the Cab Heater

The Technology and Maintenance Council recommends that cab heaters be operated about 15 minutes per month to keep the ductwork system clean and the heater controls in good working order. Some engine manufacturers also recommend the coolant line valves be shut off when operating the vehicle in very warm, ambient temperatures.

## Ten Tips for Staying Safe in Harsh Winter Weather

Cold temperatures, snow and ice create challenges for professional drivers and their heavy-duty trucks, making maintenance and preparation even more important. As winter approaches, drivers and maintenance crews should pay particular attention to these 10 areas.

### Tire Pressure

Pre-trip inspections are always an important component of safety, but they are even more important in the winter. Checking tire pressure should be part of any pre-trip inspection. As road conditions degrade from ice and snow, tire traction becomes even more important.

### Battery Maintenance

The Battery Council International reports that extremely cold conditions can reduce the amount of power a battery has to start a vehicle. When parking vehicles for long periods of time in cold weather, a block heater or some kind of self-contained engine coolant heater will make starting the engine easier.

### Wiper Blades

Ice and snow send slush and water onto the windshield, making the performance of windshield wipers and washer fluid key to staying safe. In addition, law enforcement officers in certain states, including Georgia, Iowa, Michigan and Nebraska, may issue citations if a vehicle is considered a danger. Prior to hitting the road, drivers



should check the condition of the wiper blades and ensure they operate properly. They should also check the windshield washer fluid level and keep an ample supply inside the truck.

### Air Brakes

Like other equipment, air brakes require special care in winter weather. When an air brake vehicle is parked in cold temperatures, it is common for the brake shoes to freeze to the brake drums. Drivers should make sure all wheels are turning freely. Techs should drain the moisture from air reservoirs frequently to prevent air brake valves from freezing up, and, if they use methyl hydrate, they should use it sparingly.

### Lights

LED lights are becoming standard on more and more equipment and although the lighting provides a range of





## Ten Tips for Staying Safe in Harsh Winter Weather

benefits, it often isn't warm enough to melt accumulating ice and snow. Drivers may need to brush off lights periodically during their trip.

### Tractor and Trailer Tops

Not only are the roads covered in snow and ice in the winter, tractors and trailers can become covered in it as well. Some states, including New Jersey and Connecticut, have regulations requiring drivers to remove snow and ice from their vehicles before taking to the roads. However, removing snow and ice from tractor-trailers is a challenge. It is unsafe and an OSHA violation for drivers to climb on top of a trailer to clear snow, but drivers can seek out drive-under systems that clear snow off the top of the trailer with a flexible canopy or brush.

### Shoes and Clothing

Drivers traveling across the country can see wide temperature swings in the course of an 8-hour drive. While they may not always think about dropping temperatures, it is a good idea to keep an extra set of winter clothing and a warm coat in the cab. Also, slip-resistant footwear can prevent trips and falls in a number of conditions but are especially important when drivers are in snow and ice.

### In-Cab Supplies

Certain passes and routes require chains, which drivers should have with them, but there are other supplies that can come in handy as well. As a best practice, drivers should

keep a flashlight, extra blankets and some pre-packaged food in the cab in case they are stranded in winter weather. Not only can interstates shut down from extreme weather, a breakdown in sub-zero temperatures can turn into a life-threatening situation and a tow truck may not be able to reach a tractor right away depending on road conditions.

### Speeds

Sometimes simply slowing down is the best way to improve safety in severe weather. This is especially true as drivers approach bridges or overpasses, which usually freeze first. To account for decreased speeds, dispatchers may need to build in time or accommodate drivers that need to make a change to their schedule.

### Devices to Monitor the Weather

From satellite radio to a smartphone, there are a number of ways drivers can stay current on the weather, which can help them plan their routes, stops or anticipated arrival times.

## Carriers, OEMs Use Truck Technology to Improve Safety

Carriers and shippers are continually seeking ways to improve driver safety, and original equipment manufacturers (OEMs) are responding with innovative features ranging from stability control to collision mitigation.

To minimize the risk of a crash, Volvo has introduced a variety of safety features on the exterior of the tractor, including hood mirrors, a sloping hood and driving position headlights. The tractors also have passive safety features to protect drivers, including a driver's side air bag and a "safety cage" cab design made from high-strength steel.

Electronic Stability Control (ESC) systems are designed to minimize rollovers and crashes involving loss of control. In 2012, the National Highway Transportation Safety Administration (NHTSA) estimated that about 26 percent of new Class 8 trucks were equipped with electronic stability control systems. NHTSA said in its proposed rule requiring stability control systems that ESC systems could prevent 40 to 56 percent of rollover crashes and 14 percent of loss-of-control crashes.

There are a number of stability control systems on the market. The Volvo Enhanced Stability Technology system continuously monitors a variety of vehicle parameters to determine if the vehicle is reaching critical stability threshold. If it does, the system intervenes by automatically





## Carriers, OEMs Use Truck Technology to Improve Safety

reducing engine torque, applying the engine brake and activating the necessary wheel-end brakes, dramatically reducing the likelihood of a rollover, jackknife or loss of control.

Freightliner also offers stability control. The system continuously monitors the vehicle's individual wheel speeds, driver steering and braking, and lateral acceleration. When it senses a potentially hazardous condition, the system kicks in to help the driver regain control of the vehicle.

There are several types of anti-collision systems on the market. For example, Volvo Enhanced Cruise with active braking uses a radar sensor inserted behind the front bumper to help drivers maintain a safe distance behind a vehicle. When the system senses that the distance between the truck and a vehicle gets too close, it provides visual and audible alerts. In units with adaptive cruise control, the system reduces the engine throttle and applies the engine brake.

The Meritor WABCO OnGuard System on Freightliner tractors also helps prevent collisions. OnGuard assists the driver in maintaining a safe following distance and helps avoid or reduce the impact of rear-end collisions by braking as needed. When OnGuard detects that a potential collision is developing, it sends audible and visual warnings through an in-cab dash display so the driver is alerted to take appropriate corrective action.



# DRIVING IN THE DARK:

## What You Should Know About Night Driving

### 49 PERCENT OF ACCIDENTS HAPPEN AFTER SUNDOWN

Truck drivers face many hazards behind the wheel, but driving at night can be one of the more serious risks. Here's a round-up of some interesting facts and basic safety tips for driving at night.

12:00 AM - 4:00 AM

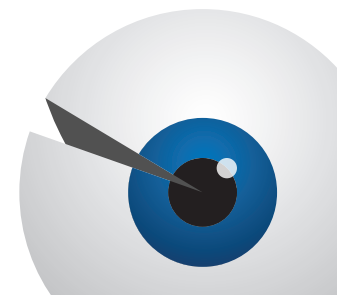
THE MOST DANGEROUS TIME TO DRIVE

### 100k ACCIDENTS REPORTED AS A DIRECT RESULT OF FATIGUE

Most drivers are less alert at night, especially after midnight, when most accidents occur. If you're tired, pull over and catch a few Z's.

### 90 PERCENT OF A DRIVER'S REACTION DEPENDS ON VISION

It's more difficult to see oncoming hazards quicker at night, and it can take several seconds to recover from the glare of oncoming cars. Try not to look directly at bright lights; instead, look at the right-hand edge of the road or follow the yellow painted line in your traffic lane.



### CLEAR'EM OFF

Dirt on your windshield and mirrors can cause bright lights at night to create a glare, blocking your view of the road. Clean mirrors and the windshield inside and out. Pay close attention that all reflectors, marker and clearance lights, and tail lights are visible to the other cars on the road at night.

### BASIC BEST PRACTICES

Never text or email while driving. Buckling up saves lives. It will keep you intact in the vehicle and allow you to maintain control of the truck. Increasing seat belt use is still the single most effective "best practice" to save lives and reduce injuries on the roadways.



### TURN'EM ON

Headlights must be on from a half hour after sunset to a half hour before sunrise. When weather conditions - like rain, snow or fog - require you to have your windshield wipers on, you must have your headlights on. It's also important to make sure your headlights are clean and working properly.

### 250 FEET IS THE MAXIMUM DISTANCE STANDARD HEADLIGHTS PROVIDE

A standard high beam can shine up to 500 feet. At night, your headlights are sometimes the only source of light. When lighting is poor or confusing, drive slowly and make sure you can stop within your sight distance.



Sources: American Trucking Associations, U.S. Department of Transportation and National Highway Traffic Safety Administration





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