

Taxi, Ride-Hailing, and Chauffeur Drivers Safety Fact Sheet

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Technology and smartphone applications have changed the way people live, work, and travel. Over the past decade, taxi drivers, ride-hailing drivers, and chauffeurs have experienced dramatic changes in operations. As third-party digital platform services compete to connect customers to drivers-for-hire, more drivers are working as independent contractors. This has brought challenges in creating comprehensive driving safety programs for these workers. Although there is no one-size-fits-all solution, several basic measures can help reduce the risks on-demand-drivers face.

Drivers-For-Hire

An estimated 370,400 people in America worked as taxi, ride-hailing, and chauffeur drivers in 2018, according to the Bureau of Labor Statistics (BLS).¹ The number, however, is probably much greater, since independent contractors – those who currently make up the fastest-growing U.S. job sector² -- are difficult to track.

Approximately 43% of for-hire- drivers are self-employed. The remainder work for taxi or limousine services or other ground passenger transportation companies. While some drivers contract with a dispatch company that refers passengers and allows the driver to use their



facilities for a fee, the growing demand is in ride-hailing services that use electronic hailing through smartphone apps or websites. Employment in ride-hailing is projected to grow by 37% from 2018 to 2028.³

The Job

Earning a living as a driver-for-hire can be a dangerous endeavor. Forty-seven drivers-for-hire were killed in the U.S. in 2018.⁴ Approximately 3,000 more, including 200 Texans, sustained job-related injuries. About one-third of those drivers received injuries requiring 31 days or more away from work. Transportation accidents, crime and violence, and other musculoskeletal injuries remain the primary job-related health and safety concerns for taxi, ride-hailing, and chauffeur drivers.

Regulations

In May 2017, new statewide regulations for Transportation Network Companies (TNCs) -- a term applied to ride-hailing companies that match passengers to vehicles through smartphone apps or websites -- was signed into [law](#).⁵ However, the Texas Department of Public Safety (TxDPS) has not provided statewide requirements for limousines and taxis. As a result, each city may have its own requirements and ordinances for permitting and regulating taxi drivers and chauffeurs.

Currently, either the local municipality (for limousines and taxis) or the TNC (for ride-hailing drivers) require annual safety inspections on each vehicle. Additionally, every two years driving records are reviewed and criminal background checks are conducted.

Make Safe Driving a Priority

Roadway accidents remain the leading cause of work-related deaths in Texas and across the United States.⁶ About 60% of fatalities among taxi, ride-hailing, and chauffeur drivers in the nation are a result of on-the-job transportation incidents.⁷

Due to the independent nature of taxi, ride-hailing, and chauffeur jobs, there are few opportunities for new hire and annual employee safety driving training programs. Therefore, drivers-for-hire are

encouraged to make a personal commitment to continue driving safety education throughout their careers regardless of years of driving experience.

For taxi, ride-sharing, and chauffeur drivers, their workplace is the road. Although drivers-for-hire cannot control roadway conditions, each driver can focus on improving the following driving skills and behaviors:

1 **Inspect the Vehicle Before Driving**

One of the best ways to ensure safety on the road is to avoid vehicle breakdowns at inopportune times or locations. Make a habit of inspecting the vehicle before each shift. A simple acronym – BLOWBAGET – can help remind drivers to check the batteries, lights, oil, wiper blades, brakes, air pressure, gas, engine fluids, and tire treads. Also, consider using a [vehicle safety checklist](#) before hitting the road. In addition to regular inspections, always follow the vehicle manufacturers' maintenance schedule to help ensure safety on the road. Additionally, follow recommendations for [cleaning and disinfecting non-emergency transport vehicles](#).

2 **Use Seat Belts**

Seat belts increase the chance of drivers surviving a car collision by 45% and cut the risk of serious injury by 50%.⁸ Seat belts also keep drivers and passengers inside the vehicle in a crash. Wearing seat belts is the law. Ensure drivers and passengers buckle up as part of a comprehensive [driving safety plan](#).

3 **Drive Rested**

Fatigue is an under-recognized risk factor among drivers-for-hire. Taxi, ride-hailing, and chauffeur drivers often work long hours in shifts around the clock. Interrupted sleep patterns, traffic, feeling rushed, working with strangers, and other job demands, all contribute to driver fatigue, which increases the risk for motor-vehicle crashes. Try to schedule driving shifts during normal awake hours. Avoid medication that may cause drowsiness or stimulants that can keep drivers awake, but not alert. Aim for getting seven-to-eight hours of sleep every 24 hours. Learn more ways to [prevent driving fatigue](#).

4 **Avoid Distractions**

Distracted driving leads to about 391,000 injuries and almost 3,500 deaths each year in the U.S.⁹ Behaviors, such as eating, drinking, cell phone use, texting, programming a global positioning system (GPS), or grooming while driving, take drivers' attention off the road. Emotions, too, can be a dangerous driving distraction. To [limit distractions](#), avoid behaviors that take a driver's eyes off the road, hands off the steering wheel, or mind away from driving.

5 **Never Drive Impaired**

All drivers must understand the dangers of driving under the influence of alcohol, illegal drugs, prescription drugs, or some over-the-counter medications. Drunk-driving crashes claim the lives of approximately 10,000 people each year¹⁰ and account for 30% of all traffic-related deaths in the U.S.¹¹ In 2016, more than 43% of fatally injured drivers in the U.S. (about 15,500 people) tested positive for drugs.¹² Over half of those drivers tested positive for two or more drugs. Take the opportunity to learn more about [commonly abused drugs that can affect driving](#); and remember to always read the labels on prescription and over-the-counter medication before driving.

Crime and Violence Prevention

Drivers-for-hire are facing heightened concerns as crime and violence continue to emerge as a primary cause of job-related deaths.¹³ The Occupational Safety and Health Administration (OSHA) estimates about 1.7 million people in the U.S. are victims of workplace violence each year.¹⁴ Although workplace violence includes any act of physical violence, harassment, intimidation, or threatening behavior, drivers-for-hire also face the possibility of theft, armed robbery, assault, carjacking, and homicide.

Since 1998, yearly on-the-job homicide rates among taxi, ride-hailing, and chauffeur drivers have ranged from 21 to 33 times higher than the national average for all workers.¹⁵ In 2018, 105 for-hire drivers in the U.S. were either killed or victims of on-the-job violence, including one in Texas.¹⁶

Safety Measures

Improving safety for taxi, ride-hailing, and chauffeur drivers requires effort and commitment from vehicle owners, drivers, service providers, law enforcement agencies, regulatory officials, and local governments. However, for-hire drivers and ride-hailing services can contribute to driver safety by encouraging the following behaviors and protective measures:

- **Create barriers or distance between the driver and passengers.** Barriers, such as bullet-

Risks That May Lead to Violence

The National Institute for Occupational Safety and Health identified multiple factors that place drivers-for-hire at risk for violence:



- **contact with people under the influence of alcohol or drugs;**



- **exchange of money;**



- **working alone and in isolated areas;**



- **working at night in poorly lit settings; and**



- **driving in high crime areas.**

resistant glass, between the driver and passengers, prevent robberies, injuries, and death. However, for ride-hailing drivers who use their own vehicles, costly physical barriers are unlikely. These drivers should create a distance barrier by directing riders to sit in the rear passenger seat diagonally and farthest from the driver. Never seat passengers directly behind the driver, if possible. Eighty percent of all assaults and homicides committed against for-hire-drivers are launched from the seat directly behind the driver.¹⁷

- **Install security cameras.** By recording activities within the vehicle, security cameras discourage violent behavior and aid in identifying passengers if an assault occurs. Video cameras can also be distributed to ride-hailing drivers by TNCs. There is [convincing evidence](#) that dash cameras are powerful deterrents of assaults and murders of drivers.
- **Equip drivers with alternative means of communication.** In the event of theft or assault, drivers should have an alternative means of communication besides a cell phone to contact the company or emergency services. Consider installing radio communication or purchasing one of the many types of one-button, silent-alarm protective devices that provide quick dispatch to local authorities when help is needed. Smartphone platforms can add an alert button to signal headquarters or send instant communications to a central dispatch system. Encourage ride-hailing drivers to join



a safety network group (with about 10 other drivers) through Google Hangouts, WeChat, or other messaging services. By running the chat window in the background, drivers have someone with whom to communicate in the event of emergencies.

- **Use vehicle tracking devices.** Ride-hailing companies using digital platforms inherently have an advantage over taxi and limousine services in tracking vehicles and identifying passengers. One of the many reasons is that ride-hailing customers create profiles using personal and financial information before riding. However, all driver-for-hire companies should incorporate the use of automatic vehicle location tracking devices and GPS to help locate drivers who may be in distress. Additionally, caller ID should be in use to trace the location of fares.
- **Improve lighting.** Increased lighting inside the vehicle allows the driver to be aware of passenger behavior.
- **Limit the use of cash.** Technology enables cashless transactions for most drivers-for-hire. For drivers without this technology, make regular cash drops during the shift, if possible. Keep money out of sight. Consider posting signs on the vehicle stating, "Drivers carry no cash."
- **Remain aware of surroundings.** Whether parked or driving, remain alert and aware of the surroundings. Avoid areas not well lit. Always look for suspicious persons loitering while waiting for a ride.
- **Make a passenger risk-assessment.** Observe the behavior, attitude, and actions of passengers. Greet and maintain

eye contact with every passenger. Do not accept passengers who cannot provide a destination. Once in the vehicle, keep casual watch on passengers through the rearview mirror, especially if acting suspiciously. Consider installing passenger-facing mirrors in the backseat. People are more likely to self-moderate their behaviors if they see their reflection. Do not engage in verbal disputes, including those about routes, shortcuts, or places.

- **Know the city.** Know the city and stay away from potentially dangerous places. Most ride-hailing services give drivers the right to refuse transportation to high-crime areas (except for disabled riders). Never drive into alleyways, back lanes, or vacant locations.
- **Keep windows rolled up and doors locked.** Crack the window only as needed to speak to someone. Never lower the window enough that someone's hand can reach the driver. Keep doors locked to prevent someone from opening the vehicle's door while the driver is stopped.
- **Know emergency procedures.** Each taxi, ride-hailing, and chauffeur company has its own safety

procedures for different circumstances. Try to learn the rules. Know designated trouble call signals and where all emergency buttons or signals are located.

- **Show extra caution at night.** The most dangerous hours for drivers to operate are between midnight and 4 a.m. Most assaults and robberies occur during these hours.¹⁸ Fewer people are around as witnesses during these hours, and passengers are more likely to be drug

or alcohol-impaired. Also, most criminal activities occur after dark. Drivers must remain at high alert if they choose to drive at these times.

- **Cooperate during a robbery.** Security professionals suggest that the safest strategy during a theft, robbery, or carjacking is to comply with the perpetrator. To avoid escalating the situation, cooperate, stay calm, keep a quiet voice, show no fear, and never threaten. After the perpetrator has left, call

911. Protect any evidence the suspect may have left or touched. Get the contact information of witnesses and ask them to remain until police arrive.

- **Carry a first aid kit and a flashlight.**

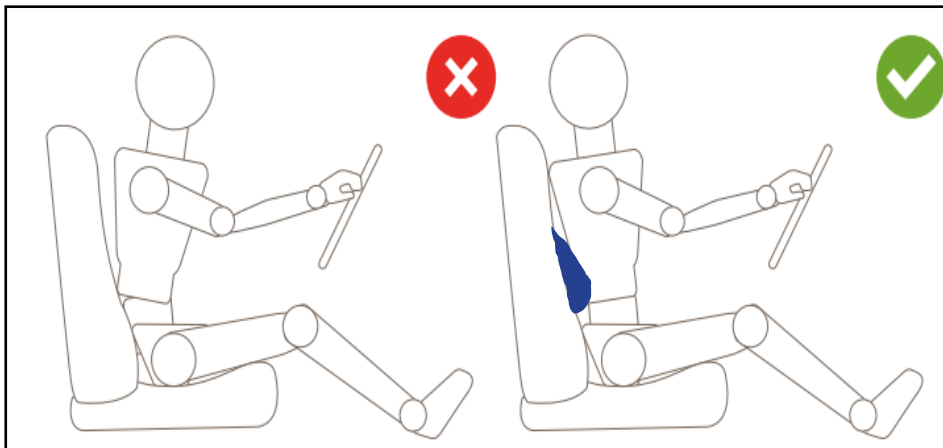
Staying safe is important, not impossible. While dangers do exist for taxi, ride-hailing, and chauffeur drivers, most can be guarded against by practicing behaviors that promote safety and help [prevent robbery and violence](#).

Protection Against Other Bodily Injuries

Working as a driver-for-hire can be back-breaking work. The long hours are often spent sitting or hoisting heavy suitcases to the trunk. These activities place taxi, ride-hailing, and chauffeur drivers at risk for a variety of bodily injuries.

Lower Back and Neck Injuries

Drivers-for-hire are at high risk for developing back and neck pain from prolonged sitting and vehicle vibration. Unlike regular sitting, a body is subjected to different forces while driving a vehicle. A combination of factors -- accelerations and decelerations, lateral swaying from side to side, whole-body vibrations, and active feet used for stopping and starting -- leave the body unable to support and stabilize itself. There is evidence that these motions, coupled with the design of the car seat itself, can cause low back pain, sciatica (nerve pain), early spinal degeneration, and herniated lumbar discs.¹⁹



In 2018, 1,000 drivers-for-hire in the U.S. reported these and other types of musculoskeletal job-related injuries, including 30 Texans.²⁰ The following tips can help taxi, ride-hailing, and chauffeur drivers prevent back and neck pain.

- **Use lumbar support.** Something as simple as a rolled-up towel or cushion properly placed at the small of the back can provide needed support. Place the lumbar support at about belt level.
- **Move the car seat forward.** Getting as close to the steering wheel as possible without becoming uncomfortable prevents slouching. It also keeps drivers from straining to reach the pedals. Keep knees higher than the hips.

- **Angle the seat.** Adjust the driver's seat to an angle of about 100 to 110 degrees. This angle decreases the pressure on the discs of the lower back.
- **Adjust the steering wheel grip.** With the advent of airbags, drivers are now encouraged to grip the steering wheel at the 10 o'clock and 2 o'clock positions. This allows drivers to rest their elbows on the armrests, which can help ease back pain.
- **Stretch out.** Stop often, preferably every half hour, to get out of the car and stretch.
- **Strengthen core muscles.** Back and abdominal muscles work together to stabilize vertebrae. Exercises to strengthen the back during off-hours. During work hours, drivers can flex their abs and hold it for as long as possible to help build core muscles.
- **Use ice.** Back pain while driving can be relieved by stopping for a stretch and placing an ice pack against the back when sitting. Ice packs help numb back pain and reduce inflammation.



Lifting Injuries

Overexertion often related to lifting heavy luggage and wheelchairs in and out of trunks is among the most common types of injuries reported by taxi, ride-hailing, and chauffeur drivers. Over 1,000 drivers-for-hire in the U.S and 30 in Texas reported overexertion injuries in 2018.²¹ These types of injuries are preventable by always using proper lifting techniques.

Lifting Luggage

- **Move to meet the bag.** Move the body to meet the bag, rather than pulling the bag to meet the body.
- **Lift with the legs.** Bend at the knees and squat to lift heavy bags. Try to limit bending at the waist.
- **No twisting.** Never twist when lifting or carrying luggage. Point toes and the entire body in the direction you want to go.
- **Distribute weight evenly.** Instead of piling bags onto one shoulder or arm, distribute weight evenly on both sides of the body.
- **Keep the bag close to the chest.** When bending to place luggage in the trunk, keep the bag close to the chest. Carry its weight in your leg muscles, not the back muscles.
- **Do not rush.** Move slowly and carefully. Be aware of the surrounding space to know how much room is needed. This will limit the times the luggage will have to be lifted and rearranged.

Lifting a Wheelchair

- **Minimize the weight.** Before lifting a wheelchair, minimize its weight by removing the leg rests and armrests (if detachable). Then, push the two sides of the wheelchair together.
- **Back the wheelchair to the trunk.** Reverse the wheelchair and roll it up to the trunk, with the push handles sticking over the lip of the trunk.
- **Check the brakes.** Ensure the wheelchair

brakes are on. This is a critical step.

- **Hook the wheelchair handles onto the trunk.** Bend with the knees. Holding the frame of the wheelchair, lift it slightly so the push handles hook on the edge of the trunk.
- **Raise and tilt.** Keeping your weight on your legs, raise the wheelchair to trunk height so the rear wheels are level with the trunk. Tilt the wheelchair to its side. The frame should now be horizontal

with the driver holding the frame and rear wheel.

- **Slide wheelchair into the trunk.** Gradually slide the wheelchair into the trunk ensuring that it does not scratch the car. A blanket can help minimize this risk.
- **Place armrests and leg rests into the trunk.** Place the armrests and leg rests next to the wheelchair before lowering the trunk lid. These steps should be used in reverse order when unloading the wheelchair.

Respiratory Effects of Traffic Air Pollutants

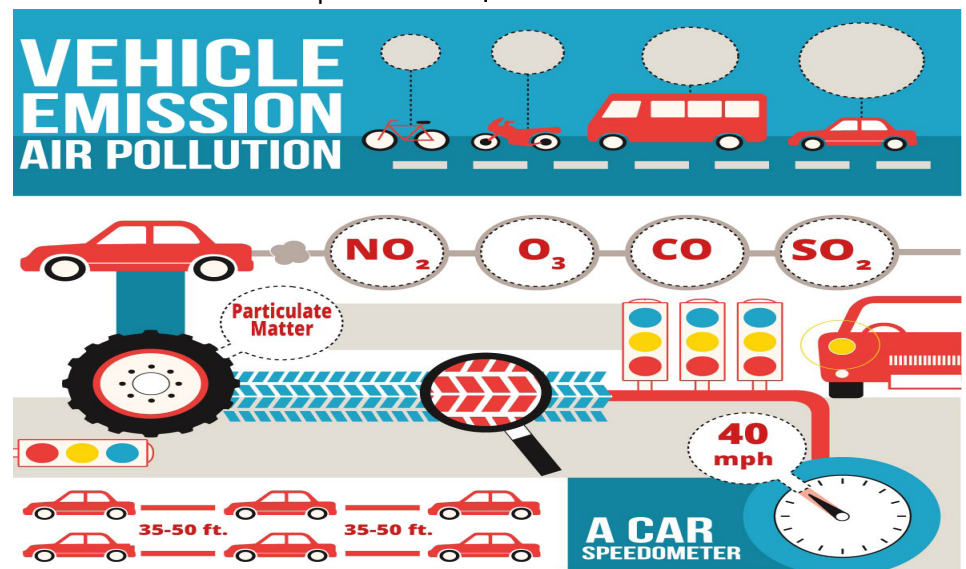
People walking along a busy road are likely to breathe in a lungful of exhaust. However, they are probably breathing cleaner air than the people in the cars passing by. There is growing evidence that for most of us, the biggest daily exposure to air pollutants is not from the toxic gases, like carbon dioxide and nitrogen oxide, that float around outside. Rather, it comes from harmful chemicals from the road that collect inside the car.²²

Air pollution has a significant impact on human health. Research shows it causes many [respiratory conditions](#), including pneumonia, bronchitis, and asthma. There is also evidence that [traffic-related air pollution](#) causes greater adverse health effects than most other sources. Diesel engine exhaust emissions, for example, are [cancerous to humans](#).

Pollutant exposure becomes worse in cars while people wait for others to move along. This is bad news for Texans because traffic on the state's roads has increased 172% in the past four decades.²³ It is particularly concerning for taxi, ride-hailing, and chauffeur drivers.

In a [recent study](#) funded by the Institution of Occupational

Safety and Health, researchers investigating professional drivers' exposure to air pollution found that vehicle pollutants were typically several times higher than ambient (outdoor) concentrations. Among the professional driving occupations tested, [taxi drivers had the highest levels of pollution exposure](#).²⁴



Vehicle Exhaust

[Vehicle exhaust](#) is a cocktail of dangerous pollutants, including:

- **Nitrogen dioxide.** Nitrogen dioxide is a harsh-smelling gas that can cause breathing problems and lung irritation. It also lowers resistance to respiratory infections.
- **Ozone.** Ozone is a naturally occurring compound that helps block harmful ultraviolet light from the sun. It is toxic at ground level. When vehicles emit nitrogen oxides, sunlight acts on them to create ground-level ozone. Ozone is the primary component of smog and is a major lung irritant. Long-term exposure may cause asthma and can result in serious and permanent structural damage to the lungs.
- **Carbon monoxide.** Carbon monoxide is a colorless, odorless, poisonous gas that causes short-term effects similar to oxygen deprivation. It can cause dizziness, fatigue, and confusion.
- **Sulfur dioxide.** When sulfur dioxide gas is inhaled, it can cause shortness of breath and chest pain. In the long term, it can cause acute respiratory illness and permanent changes to the lungs.

- **Fine particles.** Fine particles range in diameter between 0.1 and 2.5 microns. For comparison, the diameter of a single human hair ranges from 17 to 181 microns. When inhaled, these particles can lodge in lung tissue, triggering respiratory illnesses such as asthma, bronchitis, and emphysema. Fine particle exposure has been linked to the increase in cardiovascular problems, such as arrhythmic heartbeats and heart attacks. These particles represent about 9% of all airborne particles.
- **Ultrafine particles.** Ultrafine particles are smaller than 0.1 microns in diameter. About 90% of all airborne particles are this size. Not only are ultrafine particles the most numerous of airborne particles, but they are also the most dangerous to people's health. Ultrafine particles are easily inhaled because of their tiny size. When inhaled, these particles are deposited into the lungs and absorbed directly into the bloodstream. As they travel through the bloodstream, these particles reach all vital organs, including the brain.

When are in-car pollutants worse?

Research published in the journal [Atmospheric Environment](#) measured air pollutants inside and outside vehicles at traffic intersections in urban and suburban areas. Their findings include:

- **Pollutants are worse at traffic lights, stop signs, and intersections.** Stopping at red lights and stop signs increases exposure to air pollution. Intersections with traffic signals have up to 29 times higher concentrations of particulate matter than open roads. Air pollution levels are high at intersections because drivers decelerate, idle, and accelerate there. The same result occurs anywhere cars idle, such as drive-through restaurant windows.²⁵
- **Heavy traffic equals heavy pollution.** Pollution inside cars stuck in heavy traffic is as much as 40% higher than when traffic is moving.²⁶
- **Keep air out.** A study published in the journal [Environmental Science: Processes & Impacts](#) found the level of pollution was seven times greater inside cars that were stuck in traffic with the windows open. Keeping the windows closed with the fan circulating outside air also significantly increased in-car pollutants.²⁷

How to reduce in-car air pollution

Until manufacturers start making vehicles that can automatically keep the car cabin's air clean, the vehicle's ventilation settings are the best way to protect drivers' health. Fan speed, ventilation mode, and cabin air recirculation options help protect drivers' respiratory health. These steps can help:

- **In-car air purifiers.** Use a high-powered in-car air purifier with a high-efficiency particulate air (HEPA) filter.
- **Stay back.** Keep a safe distance from vehicles, especially diesel trucks.
- **Close windows and do not circulate outside air.** When in traffic or stopped at a traffic signal, close the windows. Keep your distance from the vehicle in front of you. Put the vehicle's air on recirculate. This keeps outside air from entering the car cabin.
- **Avoid high-traffic roads.** Try to use less congested roads with fewer traffic lights, even if they may take longer.

Stay away from tunnels and avoid rush hour, if possible.

- **Nix car air fresheners or deodorizers.**

Car fresheners and deodorizers are full of harmful volatile organic compounds (VOCs) -- substances that easily become vapors or gases. Air fresheners or deodorizers make the air quality in the car worse.

- **Keep a clean car.**

Pollutants in vehicles can combine with dust particles and be inhaled. Keep the vehicle's interior clean using a microfiber rag. Chemical cleaners can add to in-car pollution.

- **Change the cabin air filter regularly.**

The air filter in a vehicle helps prevent dust, mold, and other pollutants from entering the cabin. Most vehicle manufacturers recommend changing the cabin air filter every 15,000 to 25,000 miles or once a year. When in doubt, check the vehicle's manual.

These easy steps can minimize about 50% of drivers' exposure to dangerous airborne pollutants. OSHA provides additional information on [indoor air quality](#).

Other Health Considerations

This publication is being issued during the COVID-19 pandemic. This coronavirus is most easily spread by airborne aerosol droplets. The driver has little or no knowledge of passenger health, and no way to enforce social distancing. Drivers and passengers should wear face masks. Even after the COVID-19 pandemic subsides, further pandemics are possible.

Drive and Work Responsibly

While it is the responsibility of employers to implement measures to protect their workers, taxi, ride-hailing, and chauffeur drivers must take it upon themselves to practice safe driving skills and behaviors. For more information on ways drivers-for-hire can remain safe on the road, review any of DWC's [free driving publications](#) or contact a DWC [Safety Training Specialist](#) to schedule a company [driving safety program](#) today.

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*The Texas Department of Insurance,
Division of Workers' Compensation (DWC)-Workplace Safety*

P.O. Box 12050
Austin, TX 78701-2050

800-252-7031

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